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TYPES OF MANKIND: POLYGENISM AND SCIENTIFIC RACISM IN THE NINETEENTH CENTURY UNITED STATES SCIENTIFIC COMMUNITY

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An Abstract of the Thesis by Robert A. Smith

In the mid-nineteenth century, a group of American scientists known collectively as the "American School" of ethnology challenged the validity of the biblical story of creation. They proposed that, contrary to the teaching of Genesis, there had been a number of separate divine acts of creation, leading to the appearance of more than one human species within the genus *homo.* They ranked the species, also known as varieties or races, in terms of relative superiority, with the Caucasian in the highest position of all.

I argue in my thesis that the rise of the American School was a defining moment in American history as well as in the history of American science. The debate on race and slavery dominated political as well as philosophical thought in the antebellum United States. Victorian society's desire for conclusive scientific explanations for the weighty issues of contemporary life added meaning to the society's first serious attempt to justify its actions based on scientific evidence and the first attempt by science to offer such support for social policy.

TABLE OF CONTENTS

CHAPTER I

CONCEPTS OF RACE AND SPECIES

It is tempting to observe that, as long as there are groups of people, there will be those who seek to impose a hierarchy on that group because of some perceived difference. The hierarchies which some people construct might only last one or two generations, but in the words of Stephen Jay Gould, "the arguments, refurbished for the next round of social institutions, cycle endlessly."[1]

Defining race or even acknowledging the existence of race is a problem that historians have faced in different ways over the years, from detailed categorization to absolute denial. If history is a study of things almost forgotten, the history of science is a "history of forgetting … It is the history of how scientific truth emerges from the murky cacophony of words and things that were once said and built, and are now silenced and buried."[2] For students of American history, the cacophony is considerably louder and the images murkier. Race, in all its shades of meaning and interpretation, has played a considerable role in the American imagination and the written record. Color and race have been issues at the very center of some of the most important events in the American history, and Americans continue to live with the "ugly and explosive consequences."[3] In the period between1830 until 1870, American society became obsessed with its own

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[1] Stephen Jay Gould, *The Mismeasure of Man* (New York: Norton, 1981), 30.

[2] B. Ricardo Brown, *Until Darwin, Science, Human Variety and the Origins of Race*. (London: Pickering & Chatto, 2010), 1.

[3] Barbara J. Fields, "Ideology and Race in American History" in *Region, Race, and Reconstruction: Essays in Honor of C. Vann Woodward*. eds. C. Vann Woodward and J. Morgan Kousser, and James M. McPherson (New York: Oxford University Press, 1982), 143.

identity, partly as a way to find security in a troubled and changing time, and partly to fulfil the desire to make its mark for posterity. Many of society's leading figures were among the oldest families in the country. Their heritage was largely English, and the concept of the Anglo-Saxon "race" found its way into the popular consciousness. The Anglo-Saxons were a "separate, innately superior people who were destined to bring good government, commercial prosperity, and Christianity to the American continents and to the World."[4] The American "Anglo-Saxons" believed they personified the westward spread of civilization from central Europe since the fall of Rome, and considered their own migration to be a continuation of that heritage. It mattered little that the Anglo-Saxon homogeneity they imagined was in fact the outpouring of a multi-cultural melting pot comprised of many Scandinavian and Germanic tribes as well as those unfortunate tribes they had conquered.

As the country started to coalesce after the rigors of the revolutionary wars and the Napoleonic era, a distinctively American scientific and intellectual culture began to take shape. In the early nineteenth century, a discrete group of intellectuals formed the core of the American scientific community. They conducted research in the newly recognized fields of natural history and geology and published their results in the new scientific journals. One of the very first questions that occurred to American intellectuals involved the very stark physical differences between the white, red and black populations. Who were they? Where had they come from, and why were they different? With a firm concept of their own identity and destiny and taking their cues from the great thinkers of the Enlightenment, this small band of intellectuals started to classify and name

[4] Reginald Horsman, *Race and Manifest Destiny: The Origins of American Racial Anglo-Saxonism* (Cambridge: Harvard University Press, 1981), 2.

the world around them. The affirmation of individuality and a move away from systemic generalization was at the core of the Romantic Movement. Romanticism celebrated "the cultivation of individual, national and racial peculiarities," and introduced the concept of race as an explanation of perceived physical differences between individual human beings.[5]

Some writers argue that the concept of race is just as much a part of history as the events that surrounded it. Race for them does not exist outside the discipline of history, although they admit, paradoxically, that considerations of race have influenced human thought, politics, and society for many years. Society and the mass media have adopted the concept of race as a multi-purpose catchall label that effectively means anyone "not like us." Generations have skirted round the issue of defining race since it supposedly requires no definition. Society thinks that it understands race, but most people will be unable to define it meaningfully. We have collectively applied the "race" label to many social and political conflicts over the last one hundred and eighty years, and the practice shows little sign of falling into disfavor. However, the closer one comes to defining race, the more obvious it is to the historian and philosopher that this assumption is untrue. Despite all this, it would be naïve to state that issues of race do not exist. Fields, Brown, and Horsman express the concept of race as a matter of ideology. They set themselves apart from a popular historical trend that tacitly acknowledges race as a fact and in doing so they continue a twentieth century trend that has its roots in Ashley Montagu's *Man's Most Dangerous Myth: The Fallacy of Race.* Fields argues that removing the ideology of

[5] Arthur O. Lovejoy, *The Great Chain of Being: A Study in the History of an Idea.* (Cambridge, MA: Harvard University Press, 1936), 293-4, quoted in C. Loring Brace, *"Race" is a Four-Letter Word.* (New York: Oxford University Press, 2005), 68.

race, leaves little except "an abstraction which…could scarcely have inspired all the mischief that race caused during its malevolent historical career."[6]

This research examines the activities of a specific group of mid-nineteenth century American scientists and the ways in which they tried to explain the origin of humanity. It focuses on the explanations that developed at a time when the dominant population group in the country was coming to terms with its own identity as well as with the identity and nature of two other population groups that showed distinct physical differences. The activities of these scientists and intellectuals was the first serious attempt by American science to offer support for social policy, and also the first attempt by contemporary American society to justify its actions based on scientific evidence.

The scientists in question were members of the "American School," practicing the most modern science of ethnology, which in the nineteenth century meant the study of race, as distinct from anthropology, the study of humanity as a whole. One particular member of this group theorized that race was a biological and measureable fact. His research led him and his associates to propose that racial differences were significant enough to warrant identification as separate species. Historical evidence suggested that these separate species had existed since the time of creation and had not changed at all since then. This theory challenged the veracity and validity of the biblical story of creation. The Mosaic account could not adequately explain the racial diversity of humankind, and so an alternative explanation was necessary. One of the members of the American School defined the resulting theory of separate and distinct creation for the different varieties of humanity, originally known as the theory of plural origin, as

[6] Fields, 151.

polygenism. (See Table 1). Adherents to the theory of plural origin called themselves pluralists and later adopted the term polygenists, when one of their number coined it.

The polygenists believed that the races were distinct, and that they had remained unchanged throughout history. The concept of race "made possible an easy analogy of inheritable and unchangeable features from breeding animals to human beings." At the same time, scientists and ethnologists invented a race previously unseen by science, the "European."[7] The self-identified members of the European or Anglo-Saxon race in America saw themselves as the superior beings, executing their manifest destiny in a racial hierarchy they constructed. They used their scientific research and publications as a justification for the continuing practice of slavery in the South and the assimilation or extirpation of the aboriginal Native American tribes in the West. The publications of the American School offered a scientific rationale for slavery to the Southern states. This was the American birth of scientific racism.

Those scientists and naturalists who opposed the polygenists proposed that humanity had descended from a single pair of ancestors. These were the so-called "unitarians" who gained their name from their support for the unity of the human race, as related in Genesis.[8] The American School later named them "monogenists". The debate between the monogenists and polygenists consumed much of American scientific and intellectual thought in the antebellum period. Whilst it may seem logical to assume that the monogenists were all Northern abolitionists and the polygenists all Southern racists and supporters of slavery, the truth is considerably more complex. One of the staunchest

[7] Brown, *Until Darwin,* 150.

[8] These unitarians should not be confused with the theological Unitarian movement that believed in God as one entity, and was the antithesis of Trinitarianism, believing in the Trinity.

defenders of monogenism was an ordained minister from South Carolina who owned slaves, and one member of the polygenist camp was an ardent abolitionist from New York. Opponents of monogenism frequently decried their opponents' excessive emphasis on religious conviction and insufficient emphasis on science. Perversely, the polygenists saw their position as being in harmony with Christian scripture, and claimed that multiple creations made God even greater by virtue of his repeated acts of creation.

Just as race became a concept for debate, the question of species has proved a little less abstruse, although the efforts of the polygenists of the American School of ethnology muddied the waters considerably. Linnaeus' efforts to give a firm basis for scientific nomenclature met with little opposition. The definition of a species, however, was the source of considerable debate during the years of the polygenist / monogenist controversy. In history and in contemporary science, naturalists' taxonomic practices divided them into two groups known as "lumpers" and "splitters." "Lumpers," were likely to ignore minor differences in physical form and acknowledge that there would be a considerable physical variation in a large species sample. "Splitters" considered minor differences in physical appearance sufficient to warrant the division of a given species into numerous sub-species. Scientists like Samuel Morton and Louis Agassiz were "splitters." However, while they interpreted physical and racial differences as indicators of sub-species of the genus *homo*, at no time did they try to introduce a taxonomic scheme to reflect their observations. Linnaeus may have described *Homo Sapiens Afer*, but Agassiz did not use that or any other name to describe the African-American waiters he encountered in his Philadelphia hotel in 1846. Other scientists were continuing to name new varieties of birds and mammals, so the task of naming two or three extra

species or sub-species of *Homo* would seem a trivial matter. However, the vociferous debate on hybridization and the potential fertility of offspring of interspecies mating may have overshadowed the recording of fine taxonomic details. As a result, there was a very loose interchangeability between terms like species, variety, and race during this period. The meaning of all three terms was unclear in the scientific literature and even more so in the popular press. When the non-scientific public eagerly discussed such matters, the blurring continued and the concepts of "inferior" and "superior" race appeared.

This research is a chronological account of the rise and fall of the monogenist / polygenist debate that took place in American intellectual and scientific circles between 1830 and 1873. The period 1854 to 1859, when parties on both sides of the divide were engaged in heated and occasionally acrimonious debate in the scientific and popular press, was the height of the controversy. The dispute also occurred at the strongest point of the philosophical, political, and sectional debate within the United States. The end of the controversy is hard to gauge. Scholars have argued that either the end of the American Civil War or the publication of Darwin's two major works on evolution were the principal factors in ending the matter. However, the debate continued after these events until the deaths of the two most vociferous members of the American School in 1873, although the effects of polygenic theory have lingered.

Chapter II examines the background of the awareness of human diversity in Europe and America. Enlightenment attempts to come to terms with the variety of human beings diverted thinkers in Western Europe, but the question remained unresolved, as it seemed superfluous at the time. Carl von Linné (Linnaeus) developed a taxonomy that placed the various types of humans inside the animal kingdom, not at the

apex of a pyramid. At the end of the eighteenth century, American intellectuals started to hypothesize on the issue of human diversity. Samuel Stanhope Smith was the first to express a uniquely American point of view when he considered the causes of variations in skin color. Albert Gallatin also stated Enlightenment views in the early 19th century, but he was a man whose time had come too late; his words went largely unheeded as the practitioners of American science promoted their own theories.

Chapter III discusses the first of the polygenist writers who expressed their views on humanity's origins at the same time the abolitionist movement was expanding. Charles Caldwell, author of *Thoughts on the Original Unity of the Human Race,* was a Southern physician who attacked the views of Samuel Stanhope Smith. Samuel Morton, a Philadelphia physician, published two significant monographs and a number of papers analyzing the physical nature of the human skull. Morton's theory stated that there was a measureable physical difference between the races. John Bachman disputed his methodology, measurement data, and results. Two individual researchers and one research team conducted later investigations looking for bias in contemporary and subsequent research.

There was no lack of bias in the writing of Josiah Clark Nott, who is the subject of Chapter IV. Dr. Nott was a competent and respected physician and surgeon in Alabama; he also was a vocal proponent of white supremacy. He published a number of papers and lectured in Southern states to support these theories, and because of one of these papers, struck up a cordial correspondence with Samuel Morton, and Morton's associate, George Gliddon. These three men formed the core of the American School of ethnology. They proposed that the biblical chronology was inaccurate and that the story of creation

referred only to events that took place in the Middle East and the Caucasus. Referring to pictorial evidence and ancient writings that showed Negros as slaves and servants since antiquity, the men proposed that God had created the Negro race separately and that the race had always been inferior. Gliddon, an Egyptologist, had introduced the craze for Ancient Egypt into American society, and his interpretation of ancient records and art, especially depictions of Negro slaves, served to confirm what the American School believed. Ephraim Squier, an archaeologist, provided interpretations and further evidence of the Native American race's culture, evidence that the American School took as further confirmation of its argument that the only superior race was Caucasian.

Chapter V surveys the American School's last member. Louis Agassiz was a world-renowned naturalist who visited from Switzerland in 1846 to present a lecture program. He was encouraged to remain in the country to take up a chair at Harvard University that the Lowell family endowed for him. Until his first encounter with Negro domestic staff in a Philadelphia hotel, Agassiz was a believer that all the races of man came from a single set of ancestors. After that encounter, his position changed radically, and he became a firm supporter of the polygenic beliefs of the American School. Morton, Nott, Gliddon and Squier were already active and were highly regarded in their own right, but Agassiz' presence and support gave them, and the American School a considerable boost in credibility. Agassiz declared his support for the plural origin of humanity came at a meeting of the American Association for the Advancement of Science in 1850 in Charleston, SC. This declaration eventually drew a response from one of the few consistent and competent opponents to the American School, the Rev. Dr. John Bachman.

Chapter VI examines Bachman's record as Morton's "nemesis." Bachman was a Lutheran pastor and a renowned naturalist who coauthored many titles with John James Audubon. Bachman vociferously rejected the American School's attack on the Bible and its chronology, dismissing the alternative theories of multiple creations as theologically unacceptable. He engaged both Morton and Agassiz, entangling Morton in a lengthy debate in the pages of the *Charleston Medical Journal and Review*; Morton's sudden death terminated this debate. Shortly afterwards, Bachman used the *Charleston Medical Journal and Review* to publish his scathing reviews of Agassiz' books. Agassiz failed to publish an answer, which prompted Josiah Nott to take up the cudgels on his behalf.

Chapter VII examines the extent to which the debate came to a head when Nott and Gliddon published their seminal work, *Types of Mankind.* Whilst Nott and Gliddon did most of the work, Agassiz and two other American writers contributed a chapter each. Agassiz' name gave the work added weight, but his chapter added nothing new to the debate. Bachman and other clergymen condemned the book as "Types of Infidelity" since both Nott and Gliddon mocked the biblical account of creation. *Types of Mankind* was a compendium of polygenic thought but added very little to the body of knowledge. The book sold very well on both sides of the sectional divide in the United States and went into ten editions after its publication in 1854. Sales of the book were also strong abroad. The American School commanded international respect, and stood for the accepted and respected arm of American science, no matter what the church thought. *Types of Mankind*, for all its scientific and factual failings, was also the book that fixed the idea of "race" in the consciousness of the American reading public.

The decline of the American School of ethnology came in distinct stages, as related in Chapter VIII. While the United States started the long slide into Civil War from Bleeding Kansas to Harpers Ferry and beyond, Nott and Gliddon published *Indigenous Races of the Earth,* a sequel to *Types of Mankind.* Charles Darwin was also preparing a "shortened abstract" of a much larger work, which was published as *On the Origin of Species.* The reaction of the church and much of the scientific establishment to Darwin's book was predictable, in that both sides condemned it for their own reasons. The church fumed because there was no sign of God in the theory of natural selection, and the scientists complained that it flew in the face of orthodox science by continuing Lyell's proposal for a much longer timeline for the development of life on Earth. Two differing schools of thought suggest that either the Civil War or Charles Darwin were the single factors that overcame the American School. This research shows that a combination of both factors undermined the racism of the polygenists and the literal creationism of the monogenists. Darwin's wish was to end the debate between the monogenists and polygenists through his theories of evolution and natural selection. A third factor, the deaths of Agassiz and Nott in 1873 drew a line under the activities of the American School.

In conclusion, I argue that the concept of race as we understand it today is an American invention. I further argue that that many displays of racial intolerance are a legacy of the attitudes engendered by American School of ethnology, whose influence on society continued long after its effective demise in the 1870s. Historically the birth of American racism was the first product of the nascent American scientific community: it

is unfortunate that the first scientific theory of a country, whose self-evident truth declared that all men are created equal, was an attempt to prove the opposite.

CHAPTER II

ORIGIN THEORIES IN EIGHTEENTH CENTURY EUROPE AND AMERICA

In the mid-eighteenth century, thinkers of the Enlightenment were making their first systematic attempts to classify humanity and put the human race in a proper context, within their perception of God's creation. Alexander Pope probably gave the most succinct summary of the question when he declared, "He hangs between, in doubt or act or rest; / In doubt to deem himself a god or beast."[1] Most learned men were unwilling to choose the former, although several thinkers and scientists ascribed qualities of the latter to the varieties of human beings. Carl von Linné (Carolus Linnaeus) carried out the most extensive taxonomy of the natural world in the *Systema naturae* of 1735, and his system of binominal nomenclature was the foundation of the present system. He described human beings as a single species of the animal kingdom in the order Mammalia, but he split this single species, *Homo Sapiens,* into five "varieties," prefaced in his text with the warning epithet *nosce te ipsum* (know thyself). His descriptions of those varieties in the definitive tenth edition of the *Systema,* published in 1758, conflated social qualities and characteristics with anatomical or physiological distinctions. For example, *Homo Sapiens Europæns* (European man) had *oculis cærulis, tegitur vestimentis arctis* (blue eyes, covered by close vestments), was *levis, acutissimus, inventor* (gentle, acute and inventive), and *regitur ribis* (governed by laws). Linnaeus' assessment of *Homo Sapiens Afer* (African man) was markedly different. *Afer* was *vaser, segnis, negligens* (crafty,

[1] Alexander Pope, *An Essay on Man In Four Epistles to H. St. John, Lord Bolingbroke: To Which Is Added, the Universal Prayer* (London:1734), Epistle II, line 7.

idle and negligent), *ungit se pingui* (anoints himself with grease) and *regitur arbitrio* (governed by will). Linnaeus also chose to include the additional tidbit of information that African women were *sinus pudoris* (without shame) and *mammae lactate prolix* (breasts lactate profusely). A few unfortunates, such as the cone-headed *macrocephali capite conico* of China and the African race known to Europe as the Hottentots, formed the variety *Homo Monstrosus.*[2]

One of the central figures of the Scottish Enlightenment, Henry Home, Lord Kames, said that the best way to account for racial differences hitherto observed was simply to accept that God had created each race separately. Kames said, "Not to rest entirely upon presumptive evidence to me, it appears clear from the very frame of the human body, that there must be different races of men fitted for different climates." Taking the evidence of history into account, he asked if it was "not natural to suppose, that these original tribes were different races of men, placed in proper climates, and left to form their own language?"[3] Immanuel Kant proposed that the differences were in fact racial and not those of species, thereby providing a definition of species that would serve naturalists in years to come. He argued "according to this thinking all humans anywhere on Earth belong to the same natural genus, because they always produce fertile children with one another even if we find great dissimilarities in their form."[4]

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[2] Carolus Linnæus*, Systema naturæ, sive regna tria naturæ systematice proposita per classes, ordines, genera, & species* (Leiden: 1758), 20.

[3] Henry Home Kames, *Sketches of the History of Man* (Edinburgh: W. Creech, 1774), 73.

[4] Immanuel Kant, *Von den verschiedenen Rassen der Menschen* (1777), trans. Jon Mark Mikkelson (Cambridge, MA: Hackett, 1999), 9.

No matter how contradictory their theories may have been, Linnaeus, Kant, and Kames did share the common belief that the scriptural account of the creation was entirely accurate, in that God had placed every living creature on earth in its then-present form. In the main, the majority of Enlightenment thinkers accepted this without question as an article of faith. Intellectuals debated whether humanity was descended from Adam and Eve or the sons of Noah and whether it was Ham or Canaan whom God cursed, having seen Noah naked in his tent. In general, however, European Christian society did not seek an alternative explanation to Genesis.

This is not to say that the position of the Church or the Bible went unchallenged. Voltaire, always willing to test the authority of the church, ridiculed the story of Adam and Eve as a myth and assumed that the North and South American aboriginal races were the work of a separate creation. Conversely, Voltaire also sought the 'missing link' between man and ape.[5]

As science started to expand its role and sought to account for the natural world, George Leclerc, Comte de Buffon, suggested a view that was indicative of a subtle shift in emphasis away from pure religion. His creationism involved an intermediate step between inanimate matter and the perfect forms of life extant in the world. He named this form of matter the "organic molecule." By using the "organic molecule" as the constituent part of all creation, he explained the interconnected nature of the entire natural world, including the races of humanity. His doctrine, however, still held that the spontaneous generation of living organisms was possible, since contemporary science

[5] Paul Honigsheim, "Voltaire as Anthropologist," *American Anthropologist* 47, no.1 (1945): 104. For a fuller discussion of Voltaire's various philosophical and scientific positions see Michèle Duchet, *Anthropologie et histoire au siècle des lumières: Buffon, Voltaire, Rousseau, Helvétius, Diderot* (Paris, 1971).

had no explanation for the sudden appearance of small organisms such as intestinal worms in higher organisms like dogs and humans. Buffon's reputation and influence, coupled with his continuing belief in spontaneous generation, is arguably one of the most telling reasons why a burgeoning evolutionary movement in France at the time failed to reach a state of maturity.[6]

Buffon had proposed, and many European philosophers agreed, that environment was the principal agent of change in the natural world. In America, philosophers of the early republic also tried to account for the varieties of man. European thinkers depicted America as a young continent, almost literally in the sense that, as far as the Enlightenment was concerned, it had only recently emerged. The humanity of Native Americans was not in doubt, but the indigenous race was clearly in a much earlier stage of development. Further, the noxious atmosphere, taken with the condition of the local environment, had curbed the race's social development. If Europeans were to live in America, so they thought, they too would degenerate over time because of this environment. The slur inherent in this proposal was not lost on early American society, including such luminaries as Thomas Jefferson.[7]

From his position at the College of New Jersey, later known as Princeton, Samuel Stanhope Smith proposed "the unity of the human species" in his *Essay on the Causes and Variety of Complexion*. Smith originally published the essay in 1787, and a second, revised edition appeared in 1810. In his preface, Smith said that he had utilized some of

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[6] N. von Hofsten, "Ideas of Creation and Spontaneous Generation prior to Darwin," *Isis* 25, no.1 (May 1936): 85.

[7] Robert Bieder, *Science Encounters the Indian 1820-1880: The Early Years of American Ethnology* (Norman: University of Oklahoma Press, 1986), 12.

Blumenbach's ideas from *De Generis Humani Varietate naitiva* (1795). Smith availed himself of "several elucidations of [his] subject from this valuable treatise."[8]

In his own work, Smith was unequivocal from the outset that the hypothesis "that the human kind is divided into various species radically different from one another … is equally contrary to true philosophy and to the sacred history."[9] European man spread himself across the world for the purposes of war and commerce without suffering adverse effects from the vastly differing environmental conditions he encountered. Even if God had created varieties of man that may have been suited to different climates, humanity consisted of a series of varieties rather than distinct species. Skin color, according to Smith, was not a sign of a different species but the adaptation of humanity to environmental and climactic variables. Freckles, only partial stains on the skin, "cannot be removed but with great difficulty," and could never be entirely removed from those of a ruddy complexion. He further noted, "it has been remarked, not without reason, that a dark colour of the skin may be considered as a universal freckle." Smith thought this coloration was due to an excess of bile that, as he noted, turned black on exposure to the sun and air. Smith's comment on the increasing attractiveness of African slaves who have been living for some time "in the mansions of their masters" is significant simply because of its inclusion in the text. Smith's description does not reflect the titillating

[8] Samuel Stanhope Smith, *An Essay on the Causes of the Variety of Complexion and Figure in the Human Species. To Which Are Added Animadversions made on the first edition of this essay, by Mr. Charles White, Also Strictures on Lord Kaims's Discourse, on the Original Diversity of Mankind* (New Brunswick: J. Simpson, 1810), 7.

[9] Ibid., 15.

detail of Linnaeus, but instead it is a comment on the effects of environment on another human being.[10]

His work entered the debate on slavery even as Jefferson "hedged on the equality of the Negro."[11] Jefferson's hedging, however, was less hesitant than William Stanton implied. Although he acknowledged that he had not reviewed all the available evidence, pending further scientific investigation, Jefferson had expressed the "suspicion" in *Notes on the State of Virginia* that blacks were inferior. Supporters and detractors seized on these remarks and used them in years to come. Jefferson himself wrote of the "deep rooted prejudices entertained by the whites" and gloomily predicted that many other circumstances "will divide us into parties, and produce convulsions, which will probably never end but in the extermination of one or the other race."[12] Several of Jefferson's contemporaries questioned the safety of emancipating large numbers of blacks. However, those who dissented from Smith's view were wary of aligning themselves too visibly with slavery at that time, and the pointed ambivalence of the Jeffersonian view continued for the time being as the accepted norm.

One of the figures who bridged the gap between the thinkers of the Enlightenment and the scientists of the nineteenth century was Swiss born Albert Gallatin, who moved to America during the Revolutionary war. Gallatin is known for his long political service in the United States. He served in the House of Representatives, as Treasury Secretary

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[10] Ibid., 91.

[11] William Stanton, *The Leopard's Spots: Scientific Attitudes Toward Race in America, 1815-59* (Chicago: University of Chicago Press, 1960), 12-14.

[12] Jefferson, *Notes on the State of Virginia*, quoted in Frederickson, *The Black Image in the White Mind; The Debate on Afro-American Character and Destiny,* 1817-1914 (New York: Harper & Row, 1971), 4.

and was voted out of the Senate because he did not meet the citizenship requirements. Gallatin had a considerable interest in philology, the study of language, and this partly reflected an Enlightenment belief in the comparative study of humanity's attempts to strive towards culture. His lifelong research into the languages of the aboriginal tribes of the Americas, and indeed the tribes themselves, convinced him that the Indians were all of a single stock. Given the similarity of their appearance to some Asiatic peoples, he surmised that they had, in all likelihood, migrated to North America from Asia. Although the tribes' current languages were mutually incomprehensible, there was sufficient evidence to show that they shared a common root, and it was possible that these languages were closer to the original language of humanity than classical Greek or Latin.[13]

Gallatin's "Synopsis of the Indian Tribes of North America," appearing in the *Transactions and Collections of the American Antiquarian Society* in 1836, is historically significant because it made three important points.[14] First, humanity shared a common ancestor. Second, the Indians of both Americas were a single race. Third, all humanity progressed from savagery to civilization. Those races still in a state of savagery had not started the long path towards civilization.[15] While the majority of scientific thinkers had no hesitation in adopting the second of Gallatin's points, the first and third would be the grounds on which the opposing factions would intellectually differ. Gallatin's support

[13] Bieder, 30.

[14] Albert Gallatin, *A Synopsis of the Indian Tribes Within the United States East of the Rocky Mountains, and the British and Russian Possessions in North America* (Cambridge, MA: s.n, 1836).

[15] Bieder, 32.

for the purchase of native land to compel the tribes to turn to agriculture was a distinctly modern opinion for his era. It contrasted sharply with a firmly-rooted Enlightenment belief in nature and philology as the keys to understanding humanity.

Gallatin's natural philosophy was the product of an earlier era. Immanuel Kant said that that man should use his intellectual powers to gain a systematic knowledge of nature and the natural world. This philosophy started to lose its popularity as more thinkers challenged the belief of the previous century. By the 1830s, many philosophers measured humanity's progress in purely racial terms, not in the outdated theories of the previous generation. Whereas Gallatin was consistent in his belief that environmental factors dictated the progress of a society, there were those who started to see themselves at the top of a social hierarchy. Later still, Gallatin's belief in the other Jeffersonian ideal, that of the independent yeoman farmer, and his belief that land purchase should compel more Native Americans to adopt agriculture as the first step toward civilization, were increasingly questioned by those who saw little value in attempting to bring civilization to the native tribes. The Indians had shown little or no inclination to adopt the ways of "Euro-American civilization" and had in fact retreated further from it.[16] Contrary studies proposed that Indian society had in fact started to deteriorate or degenerate in the face of Euro-American superiority.[17]

By the 1830s, American society was developing in other directions as well. Increasing land use by an expanding population and the rise of urbanization and industrialization pushed aside Jefferson and Gallatin's small agrarian ideal. Scholars

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[16] Bieder, 45.

[17] Alexander W. Bradford, *American Antiquities and Researches into the Origin and History of the Red Race* (1841), quoted in Bieder, 44.

scrutinized biblical texts as historical documents, not articles of faith. Older philosophers saw the world as a 'finished article,' much like the products of the rapidly expanding industrial revolution. The Earth was machine that stood in its complete form, never to change again. Those thinkers and writers who saw the universe as a kaleidoscope of constant change undermined this view. Likewise, other voices had started to express concerns about the origins of humanity in the context of both a changing and unchanging universe. While America became "increasingly raucous in its concern with concerns about race, Gallatin's voice proved too quiet to be heeded."[18] Some of the dissenting voices came from an emerging group of amateur and practicing professional scientists. Among them, a few individuals emerged who would provide the foundations for a school of thought that symbolized American anthropology and ethnography for the years to come. This school of thought would offer a scientific rationale for the issues that occupied America and would ultimately lead to its most devastating conflict.

[18] Bieder, 54.

CHAPTER III

CALDWELL AND MORTON - THE RISE OF AMERICAN SCIENCE AND THE AMERICAN SCHOOL OF ETHNOLOGY

Enlightenment philosophers had considered the issue of human origins extensively. The conclusions they reached provided their successors with building blocks for the discipline.[1] The early nineteenth century was a period in which thinkers and learned society constantly "tinkered" with the theories of the eighteenth, as they constructed and applied their own individual explanations of human progress and development to the society of the day.[2]

In America, just as in Europe, it became fashionable to apply science to the social questions of the time. After the conclusion of the War of 1812, American science began to coalesce into a discrete body of thought that no longer relied solely on European influences.[3] It became apparent to these Americans that while the racial differences between human beings had been a curiosity, now the existence of those varied races would be an object lesson in human origin and development. Having come to terms with its national identity in the few years since the Declaration of Independence, the United States would also struggle to come to terms with three races within its boundaries.

The two greatest issues facing antebellum America were slavery and secession.[4] The schism that slavery produced in American society began at the end of the

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[1] Bieder, 12.

[2] Ibid., 13.

[3] George H. Daniels, *American Science in the Age of Jackson* (New York, Columbia University Press, 1968), 7.

[4] Walter H. Conser, Jr., *God and the Natural World* (Columbia: University of South Carolina Press, 1993), 107.

Revolutionary War, and Northern abolitionists amplified that divide. Contemporary authors doubted the wisdom of freeing slaves into a society that saw them as an alien presence, and those authors considered that these hasty if laudable actions hindered the abolitionist cause. Northerners frequently described the behavior of freed slaves as "degenerate," revealing a belief that the slaves' condition had declined in some way since emancipation.[5]

The Second Great Awakening had led abolitionists to see that slavery was a facet of personal sin, and emancipation was necessary in order to obtain God's forgiveness. As a result, social organizations and the various religious denominations started to become more deeply involved in society's major issues. Some of the abolitionists, however, advocated a separation from the organized churches that were corrupted because of slavery or because they continued to allow slaveholders into their congregations. The Home Missionary Society, the Home Education Society, the American Bible Society, the American Temperance Society and the American Colonization Society reflected the activist stirrings of what became the Third Great Awakening some years later.[6]

While the abolitionists redefined the social and moral line between the Church and society, Charles Lyell's book *Principles of Geology*, published in 1830, redrew the battle lines between science and religion. Lyell's study of fossils proposed that the earth was much older than the six thousand years established by Bishop James Ussher's chronology in 1650. However, the fossil record was incomplete, and this caused

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[5] Ebenezer Baldwin, *Observations on the Physical, Intellectual and Moral Character of our Colored Population* (New Haven, 1834), quoted in Frederickson, 4. Baldwin was the son of antislavery spokesman Reverend Ebenezer Baldwin who was active in Connecticut in the 1770s.

[6] Fredrickson, 21.

participants on both sides of the discussion to seek answers from more extensive study of history and natural history. In his book *Thoughts on the Original Unity of the Human Race*, also published in 1830, Dr. Charles Caldwell theorized that humanity did not originate from one single place but from multiple acts of creation in different places across the planet. Caldwell's book is the earliest nineteenth century American work to propose the concept of the plural origin of humanity, known later as polygenism. Caldwell's work eventually typified what Bieder called a "New Focus," which theorized that species had always been immutable and would not change in the future. Philosophers sharing the "New Focus" took a less flexible view of race and proposed the inherent superiority of one race over another.[7] It is not surprising that a country that was actively practicing slavery and systematically trying to expel, or even extirpate, its native population should devote much of its scientific attention to proving that Negroes and Native Americans were separate, inferior species.[8]

Caldwell had roundly attacked the arguments previously put forward in Samuel Stanhope Smith's *An Essay on the Causes of the Variety of Complexion and Figure in the Human Species,* which theorized that variations in human coloring were the result of environmental adaptation.[9] Smith's reaction to Caldwell's attack was akin to a nervous breakdown from which he never fully recovered and which ultimately hastened his death. In this, his second publication, Caldwell bemoaned that men such as him were

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[7] Bieder, 55. For more discussion of the change in focus in the early nineteenth century, see George W. Stocking, "Some problems in the Understanding of Nineteenth Century Anthropology" in *Readings in the History of Anthropology,* ed. Regina Darnell (New York: Harper and Row, 1974), 413.

[8] Stephen Jay Gould, *The Mismeasure of Man* (New York: Norton, 1981), 43.

[9] Stanhope Smith, 50.

"forbidden" to question "any sentiment or form of doctrine that is deducible by construction from the Old or New Testament." However, he firmly stressed in the preface that honest and robust scientific enquiry would not threaten "sound religion."[10] His new book made a series of specific criticisms of James Cowles Prichard and his *Research into the History of Man*. Caldwell said, "His object does not appear to have been rigidly to *examine* the question, as to the original unity of man; but positively to *settle* it – *in his own way*" [Original emphasis].[11]

Caldwell's thesis rested on two essential points: First, while there were demonstrably so many differing species of similar looking animals in nature, it was impossible that there was so little variation among the races of men. He argued that the human species was not subject to change because this was its original form. It was common knowledge that Noah had emerged from his Ark "four thousand one hundred and seventy-nine years earlier." Yet a nation of Ethiopians "is known to have existed three thousand four hundred and forty-five years ago." If these people were "the stock of Noah," they had less than seven hundred years to change from Caucasian to black. Caldwell concluded that the present races of humanity had always existed.[12] Second, there was no proof that environment caused any change in the physical characteristics of any of the individual races. The Portuguese, Spanish, and English had colonized South America and the Caribbean, but none had made any progress "in the conversion … into a

[10] Charles Caldwell, *Thoughts on the Original Unity of the Human Race* (New York: Bliss, 1830), 9.

[11] Ibid., 14.

[12] Ibid., 72.

different race."[13] Later in the book, Caldwell discussed the present condition of the races and opined that the American Indians and Africans were inferior races because of their demonstrated lack of intellectual development. "As they have never produced a Cicero, a Bacon, or a Shakespeare in talent, neither have they given the world the great example of a Cato, an Alfred, or a Washington in virtue. No point in time can be indicated when the Caucasians were real savages."[14] He dismissed the Native American tribes in a few pages as savages destined for extinction. Their only hope of survival would be interbreeding with Caucasians and domestication, in much the same way that the domestic dog descended from the wolf.

Caldwell challenged readers to say that his theory would cause members of the "superior species" to show "sentiments of pride, injustice and unkindness to those that are below them," and he denied that his theory would have any "tendency to harden, pervert, or in any way deteriorate the feelings of enlightened men."[15] The fact that he found it necessary to say that his book "gives no countenance, as it has been accused of doing, to cruelty or tyranny practiced toward the Africans or the aborigines of our country" indicated he knew exactly what was likely to happen. Despite this, Caldwell said he knew of no evil "that can possibly result from the theory."[16] What he proposed was that man should not tyrannize the lower creatures since even they have their rights. Just as man has a duty to protect womankind, he should also protect the lower races, since not all

[13] Ibid., 105.

[14] Ibid., 140.

[15] Ibid., vi.

[16] Ibid., viii

of them have the same rights and entitlements as the higher races. In other words, despite their intellectual superiority, the Caucasians should not enslave the Africans simply because they are able to do so. The question left unanswered is why should the Caucasians enslave the Africans at all. For what may be considered obvious reasons – his ownership of slaves being chief among them, Caldwell did not address the point.[17]

One of the earliest practitioners who set out to prove the relative hierarchy of the races through empirical measurement was Dr. Samuel George Morton of Philadelphia. Morton had obtained his medical degree from the University of Pennsylvania and joined the Academy of Natural Sciences in 1820. On the advice of an older relative with a low opinion of American qualifications, he toured Europe for a few years, during which time he studied in Paris and obtained a second medical degree from the University of Edinburgh. The cities of Edinburgh, Paris, and Philadelphia exerted a considerable influence in the formative years of many members of the American School and one of its opponents. Morton and Charles Darwin both studied at Edinburgh, although their student careers were a few years apart.

While in Edinburgh, Morton made the acquaintance of Robert Knox and George Combe, the eminent phrenologist. Knox, a former military surgeon frequently labeled as the ”father” of British scientific racism, had brought a few native South African skulls back to Edinburgh after his military service, and he exhibited them according to the

[17] Caldwell's personality is the subject of a few paragraphs in the secondary sources. Desmond and Moore in *Darwin's Sacred Cause* (London: Allen Lane, 2009) describe Caldwell as "the slave-owning, extermination-happy overbearing six-foot-two Southern orator, a man equally self-righteous and inflexible." In *The Leopard's Spots*, Stanton describes him as "Dignified, pompous and vain. His mind was like a steel trap which under the weight of an overweening ego, slammed shut in early youth, never to open again except to fads." (20)

fashion of the time.[18] Combe, author of the bestselling *Constitution of Man* (1828), had dedicated an earlier work to Dr. Philip Syng Physick (1768-1837) of Philadelphia, who was a seminal figure in American medicine and Morton's mentor and dedicatee for his Edinburgh doctoral thesis.

Having diversified his studies to include geology and natural history, Morton developed an interest in skulls and the science of craniometry, the measurement of the human skull. This interest may have commenced during his time in Edinburgh and then quite probably expanded into the study of phrenology, the study and mapping of the skull in order to estimate mental qualities by physical measurement.[19] Morton's interest in skulls and his inability to borrow specimens for a lecture he wanted to give inspired him to build his own collection. In the main, he achieved this by requesting or encouraging scientific or military explorers and physicians to send him samples during their travels both inside and outside the United States. His network of contacts within the Academy of Natural Sciences and the American Philosophical Society aided him considerably in this quest. The so-called "American Golgotha" at the Academy of Natural Sciences contained between nine hundred and one thousand specimens. At the height of its fame, Morton's collection was reputedly the largest skull collection in the United States at a time when the collection of crania of all kinds was fashionable among the social and learned elite.

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[18] Knox's indirect involvement in the bodysnatching and murderous activities of Burke and Hare damaged his reputation in Edinburgh and elsewhere a few years later. While Knox may have been one of their customers, he was not implicated in the commissioning or felonious procurement of cadavers.

[19] Desmond and Moore suggest in *Darwin's Sacred Cause* there is a likelihood that Morton would have met famous phrenologists in both Edinburgh and Paris during his studies.

It would be easy to dismiss Morton's collecting as the mark of the intellectual dilettante of the nineteenth century. However, Morton was not alone in his passion for collecting skulls. On behalf of scientific customers and sponsors, agents frequently desecrated Native American burial sites, including those of individuals recently deceased. This activity caused increasing bitterness between the white and native population for some time.[20] Morton's collection constituted the raw data he needed to analyze in order to construct his hypothesis. He believed that using a combination of empirical measurement and craniometrical and phrenological analysis, he could produce an authoritative hierarchy of races and their relative qualities for future reference. Morton measured the skulls' dimensions, their physical appearance, and their cranial capacity. He published the results in his first major work on the subject, *Crania Americana* in 1839.

To a student of the American School, what is striking about *Crania Americana* is its lack of polygenic theory or opinion. Morton was unwilling to engage the church or to stir up any form of public controversy at this stage in his career, and the overall tone of the book is detailed, scholarly, and dull. The introductory essay "On the Varieties of Human Species" quoted from Hugh Murray's *Encyclopedia of Geography* (London, 1834), which itself stated that in accordance with Cuvier's model, the varieties of man were three in number. These three were the Caucasian, Mongolian and Ethiopian, each able to trace its ancestry to one of the three sons of Noah.

Just as Charles Caldwell had done previously, it was also Morton's aim to demonstrate that the races of man had not altered in the four thousand years since Noah's

[20] Robert Bieder in *Science Encounters the Indian* (67) notes that the "cottage industry" of harvesting Native American crania continued throughout the nineteenth century and was even practiced by Franz Boas as late as 1888.

Ark had grounded on Mount Ararat.[21] Paul Erickson claimed that Morton derived much of his ethnographic information for *Crania Americana* from Charles Caldwell, which may account for the similarities in descriptions of the races, although there is little more than an acknowledgment of Caldwell's "instruction" among five other names in the preface.[22] Morton dedicated the book to "Dr. James Cowles Prichard, of Bristol, England, the learned and ingenious author." Charles Caldwell's dismissive attacks on Prichard nine years previously throw the scientifically neutral stance of Morton's book into sharp relief. These facts notwithstanding, the statistical tabulations and exquisite lithographs of the first edition made *Crania Americana* an imposing work both physically and in terms of its content.

One of the most significant statements in *Crania Americana* was that the ancient Egyptians were members of the Caucasian rather than Negro race. One of the longer footnotes, "On the Supposed Affinity between the Egyptians and the Negroes," directly challenged Constantine de Volney's hypothesis from *The Ruins* that the ancient Egyptians were black. Morton cited representational evidence from ancient frescos and challenged the loose terminology of the ancient Greeks, who described anyone with a darker complexion as "black." Morton's case for the innate superiority of the Caucasian race depended on a hypothesis that all great civilizations since ancient times were Caucasian. Morton could not admit that the ancient Egyptians were members of an

[21] Samuel G. Morton, *Crania Americana* (Philadelphia: Dobson, 1839), 2.

[22] Paul A. Erickson, "Phrenology and Physical Anthropology: The George Combe Connection," *Current Anthropology* 18, no. 1 (March 1977): 92-93.

African race since that would undermine any claim that the only advanced civilizations were white.[23]

Reviews of Morton's work were positive, although some of these were anonymous reviews written by Morton's associate George Gliddon in order to bolster weak sales of the very expensive book. By a variety of means, including the unsolicited distribution of copies to influential men, *Crania Americana* became the standard tool of reference for ethnologists and natural historians with an interest in humanity's origins.[24] In the July 1840 issue of the *North American Review*, an anonymous reviewer wrote, "The Crania Americana constitutes by far the most valuable addition, which has been made to the natural history of man since the learned and philosophical works of Blumenbach and Prichard." The reviewer noted that the majority of the work dealt with the crania of the Americas and so concentrated his review upon those skulls. He also noted with some interest Morton's conclusion that the American race was one single race divided into perhaps two "families," despite the variations in cranial size and widely differing manifestations of intelligence and culture such as the ancient cities of South America. Showing a degree of Anglo Saxon solidarity, the reviewer could not pass over the Caucasian origins of the Ancient Egyptians. Morton's opinion that there were two radically different races was "incontrovertible." The reviewer concluded, "The fairness

[23] Morton, 29-31.

[24] Ann Fabian, *The Skull Collectors: Race, Science, and America's Unburied Dead* (Chicago: The University of Chicago Press, 2010), Kindle Edition: Location 1070/3463.

and accuracy with which these researches have been concluded will entitle the author to the highest respect and confidence of the scientific enquirer."[25]

In 1844, Morton followed the success of *Crania Americana* with *Crania Aegytpica, a* slender volume in comparison to its predecessor. The book examined the skulls of ancient Egypt and concluded that slavery had been commonplace. The craniological research used skulls collected by Gliddon during his tenure as assistant United States Consul in Cairo. Morton's rationale for *Crania Aegyptica* was almost certainly twofold. First, his collection of crania was concentrated principally on American examples with very few specimens from other parts of the world. The skulls supplied by Gliddon gave the collection a new direction and gave Morton the impetus to undertake a new work. Second, it also served to continue to propose that slavery was a natural state for an inferior race. Morton's enthusiasm for collecting undoubtedly rubbed off on Gliddon, whose domestic servants despaired as his collection of skulls in his Cairo home rose above ninety examples.[26] As a demonstration of his gratitude, Morton dedicated *Crania Aegyptica* to Gliddon.

The collection of ancient Egyptian skulls demonstrated to Morton that the Egyptian race had varied little, if at all, over the three thousand years it had been in existence. By further demonstrating the immutability of the Egyptian race and referring to ancient frescos and art that featured seemingly Caucasian rulers with Negro slaves, Morton and Gliddon confirmed the relative positions of the races, and specifically Negro inferiority, over a long period. Morton backed up this claim with a customary table of

[25] "Crania Americana," *The North American Review* 51, no. 108 (July 1840): 173-86. The author of this anonymous review is probably George Gliddon.

[26] Stanton, 45.

data showing the cranial capacity of all his specimens. It is not surprising that the Negro skulls yielded the lowest mean cranial capacity.[27] Morton benefitted both from Gliddon's entry in the lecture circuit and from the public craze for all things Egyptian, which Gliddon also hoped to exploit while selling further copies of Morton's book along the way.[28]

Morton's craniometrical and phrenological texts did not go completely unopposed. In 1850, The Rev. Dr. John Bachman of Charleston, SC published *The Doctrine of the Unity of the Human Race Examined on the Principles of Science.* Bachman, a well-known naturalist, had corresponded with Morton in cordial terms and shared a membership of the academy of Natural Sciences in Philadelphia. He also published the notes of a series of discussions at the Literary Club of Charleston on the true origin of the human race. Bachman was keen to investigate branches of science that "dared to militate against the truths of Christianity."[29]

Bachman's notes mentioned Dr. Morton repeatedly and included a full chapter on the measurement of skull and cranial capacity and consequent derivation of brain weight. Bachman lamented the state of anthropological collections in the United States. With the exception of those skulls "in the cabinet of Prof. Morton," Bachman believed there was no comprehensive collection of human skulls anywhere in the country. He even doubted that any institution had a complete collection of the skulls and skeletons of domesticated

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[27] Morton noted that many of his African Negroid skulls were obtained from Liberia and were probably more modern than the Egyptian skulls. *Crania Aegyptica*, 21.

[28] Fabian, Kindle Edition: Location 1242/3463.

[29] John Bachman, *The Doctrine of the Unity of the Human Race Examined on the Principles of Science* (Charleston: Canning, 1850), Preface.

animals.[30] Bachman compared Morton's figures with those of Dr. Tiedemann from Heidelberg, who published a similar article on comparative craniometry in the *Philosophical Transactions of the Royal Society* in 1836.[31] Using Tiedemann and Morton's figures, Bachman concluded that the largest African skull had a cranial capacity only two cubic inches larger than the average Irish skull. Even if this proved that that a negro skull contained more brains than an Irish example, it did not necessarily demonstrate a superior intellect. The tables, according to Bachman, would satisfy readers of "the utter futility of any attempt to divide the races of men into different species from the size of the brain." Bachman refrained from further comment, saying he would "leave the result to the calculation and sober reflection of our readers."[32]

In 1914, Aleš Hrdlička implied in an otherwise deferential article that Morton had made errors in calculation and labeling as well as scientific reasoning. He noted that Morton's association with phrenology "has no trace of the charlatanism later associated with the name." The article went on to excuse the few "erroneous statements and conclusions included [that] were due entirely either to imperfect contemporaneous knowledge in anthropology or to lack of material."[33]

Less than seventy years later, Stephen Jay Gould had no such qualms. Gould's book *The Mismeasure of Man* debunked a number of erroneous scientific theories, and

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[30] Ibid., 217.

[31] Frederick Tiedemann, "On the Brain of the Negro, Compared with That of the European and the Orang-Outang," *Philosophical Transactions of the Royal Society of London,* 126 (1836): 497-527.

[32] Bachman, *The Doctrine of the Unity of the Human Race,* 229.

[33] Aleš Hrdlička, "Physical Anthropology in America: An Historical Sketch," *American Anthropologist*, New Series 16, no. 4, Facts and Problems of North American Anthropology 2 (October - December 1914): 508-54.

Samuel Morton's studies of the human skull received special attention. Even though he failed to detect any deliberate attempts at fraud, Gould accused Morton of "fudging and finagling" his data by means of inconsistent measurement, shifting criteria, or convenient omission to confirm a desired outcome.[34]

Gould preferred to carry out his own data analysis, and perhaps it was for this reason that he made very few references to any of Morton's contemporary critics. John Bachman, therefore, only merited a single reference. He was simply a "South Carolina parson," although his contribution to natural history did make him a "prominent naturalist" in Gould's estimation. However, none of the mathematical and statistical analyses that Bachman carried out in order to dispute Morton's conclusions at the time appeared in Gould's book, and he gives the impression that almost no-one criticized Morton until he uncovered the errors while researching in the 1970s.[35]

In an ironic twist, a group of six authors criticized Gould for allegedly allowing his own anti-racist bias to enter his criticism of Morton's methods. An article in the June 2011 issue of the electronic journal *Public Library of Science – Biology* claimed, "the more likely candidate for manipulating sample composition is Gould himself."[36] An editorial in the journal *Nature* settled the brief controversy that the article raised. It pointed out that the authors had connections with the University of Pennsylvania, the current resting place of the remains of Morton's collection, and they clearly wished to

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[34] Stephen Jay Gould, *The Mismeasure of Man* (New York: Norton, 1981), 50-68.

[35] Ibid., 70.

[36] Lewis J.E, with D. DeGusta , M.R. Meyer, J.M. Monge, A.E Mann, et al., "The Mismeasure of Science: Stephen Jay Gould versus Samuel George Morton on Skulls and Bias," *Public Library of Science Biology* 9, no. 6 (June 2011) http://www.plosbiology.org/article/info%3Adoi%2F10.1371%2Fjournal.pbio.1001071 (12 April 2014).

divorce the collection from the stigma of racism. The editorial also advised the authors in a slightly didactic tone that it was far better to impugn the motivations of authors while they are alive rather than wait nine years after their deaths to start levelling accusations of bias.[37]

The 2011 controversy did little to raise Morton's reputation, which was by that time fairly well discredited. While in 1981, Gould may have implied that Morton fudged his data to confirm what he already knew, a closer look at the figures shows that Morton's significant differences are minor variations in human specimens. Bachman had already said this at the time. Gould's revelations did little damage to Morton's stature, whereas later books like *The Skull Collectors* not only portrayed Morton as a cheat but also as an incompetent cheat who relied on George Gliddon to sell copies of *Crania Americana* when it failed to sell on the American market. Lewis and his associates achieved very little in attacking Gould's examination of Morton. Because of the reduced size of the collection in 2010, they were unable to replicate all of Morton's experiments, either to confirm or refute Morton's figures or findings. By the time Lewis and his coauthors returned to study Morton's collection, the federal government had already returned many skulls to Native American tribes under the terms of the Native American Graves Protection and Repatriation Act. As the *Nature* editorial suggested, the article appeared to be little more than old school loyalty and a desire to distance the institution from racial stigma.

In the last analysis, it is true that Morton lent considerable weight to the arguments of the polygenists even though his own support for the theory was lukewarm at times. With the assiduous attentions of students, followers, and hangers-on from Nott

[37] "Mismeasure for mismeasure," *Nature* 474 (23 June 2011): 419.

to Gliddon and beyond, Morton's work provided the fuel to power the engines of scientific racism as they gathered momentum.

CHAPTER IV

JOSIAH NOTT AND THE ROOTS OF SCIENTIFIC RACISM

By the mid-1840s, the Southern states of America were not "the South the Jeffersonians had known." Those who questioned the "self-evident truth" of the Declaration of Independence as "the effusions of a young and ardent mind" were also among those who seized on the highly flawed census of 1840 to prove a point. That census had indicated that something was wrong with the mental state of the free Negro population of the Northern states, and Southerners tried to apply its findings to their own situations south of the Mason-Dixon Line.[1]

John C. Calhoun, the newly appointed Secretary of State, employed the services of the colorful Egyptologist George R. Gliddon and, on Gliddon's recommendation, Samuel Morton. They were to provide an authoritative scientific explanation of the state and condition of the Negro races, all while the negotiations surrounding the annexation of Texas progressed. Using information from Gliddon and Morton, Calhoun advised the British government in the "Pakenham Letter" to cease its abolitionist interference.[2] Calhoun further advised Lord Aberdeen, the British Foreign Secretary, that nothing could be done to improve the condition of the Africans and, quoting the 1840 census, stated that the condition of free blacks in the North had deteriorated while the condition of Negro slaves in the Southern states had actually improved under slavery. Domestically, the Pakenham Letter achieved its objective in stirring up a degree of Southern support for the

[1] Stanton, 60.

[2] Sir Richard Pakenham was British Ambassador to the United States from 1843-1847 and the nominal recipient of Calhoun's communication.

annexation and at the same time presenting the North with the prospect of losing the Southern states *en masse* should the annexation of Texas as a slave state not succeed.

The 1840 census generated a vast amount of correspondence that would engage the learned and general reader for years to come. One specific item of correspondence piqued the interest of a practicing physician in the South, who until then had been content to be active in the medical circles of Mobile, Alabama. He ran a successful medical practice, organized the physicians and surgeons of Mobile against the legion of unqualified amateur practitioners, and opposed the fashionable trend for patent medicines that appeared in the popular press. The article in question was "Vital Statistics of Negroes and Mulattoes," which appeared in the *Boston Medical and Surgical Journal* in October 1842; it was written by an author who identified himself only as "Philanthropist." The purpose of the article was to draw four main points to the attention of the journal's readership. First, "pure Africans" had the greatest longevity of any human beings. Second, "mulattoes," the result of a union between a white or Caucasian and Negro, were the shortest-lived by a large factor. Third, the mortality rate of mulattoes increased dramatically between ages 25 and 70. Finally, the general mortality rate of "free people of color" was significantly greater than that of slaves. It was the author's desire that "the causes of such momentous effects may be fully and satisfactorily ascertained, or a remedy or preventive successfully suggested." The editor of the journal supported the author with a few statistical footnotes going as far back as 1827 to confirm that the mortality rate for mulattos in the British Caribbean was just as bad as that of the United States.[3]

[3] "Vital Statistics of Negroes and Mulattoes," *Boston Medical and Surgical Journal* 27, no.10 (October 1842): 168-70.

The physician who caught sight of the article in the course of his professional reading was Dr. Josiah Clark Nott. Reginald Horsman, his biographer, describes Nott as "a man of his time," although other authors are a little less complimentary about his materialistic lifestyle, appreciation of horseflesh, and admiration of a finely turned feminine ankle.[4] Nott advanced the understanding of yellow fever in the South and was the first doctor to propose that mosquitos, rather than the fetid swamp air, transmitted the disease. In all these things, he was arguably the embodiment of contemporary Southern science. He was a member of the Southern social elite and professed a desire for independent scientific enquiry, but at the same time wanted to preserve all aspects of the Southern way of life that had treated him very well indeed. Nott was a slave owner, and his dismissive attitude to the Negro population was commonplace in the South where white Americans believed that racial inequality was an unpleasant fact. Nott's opinions were more contentious when he deliberately used scientific reasoning to defend his theses, but he also demanded that there should be freedom to question religious dogma. Nott was adamant that religion should not interfere with free scientific enquiry.[5]

Nott was delighted to read "Philanthropist's" contribution, not simply because of its content but because of its place of origin. He enthused "I am rejoiced to see light breaking from this point of the compass."[6] A Southerner like Nott would have been

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[4] The definitive biography of Nott is Reginald Horsman's *Josiah Nott of Mobile* (Baton Rouge: Louisiana State University Press, 1981). William Stanton's *The Leopard's Spots* mentioned here and elsewhere gives a series of useful pen-portraits of Nott, Gliddon, and other members of the "American School" of ethnology.

[5] Horsman, *Josiah Nott of Mobile*, 82.

[6] Josiah C. Nott, "The Mulatto a Hybrid – Probable Extermination of the Two Races if Whites and Blacks Are Allowed to Intermarry," *The New England Journal of Medicine* 29, no 2 (16 August 1843): 29-32.

enthusiastic to see an article like this in a New England journal. That region's role as a center for the abolitionist movement made it an unlikely place of origin for studies of racial issues. Conversely, the *New England Journal of Medicine* was among the most authoritative medical journals of the time. As such, it was the natural organ for the publication of medical research and attracted a wide circulation, clearly extending as far as Nott's practice in Mobile. However, "Philanthropist" made no comment on the conditions under which mulattos and Negro slaves lived, and neither did the article give any indication of the author's regional origin.

Nott's response to "Philanthropist" was to publish an article of his own in the *New England Journal of Medicine* a few months later. The article, "The Mulatto a Hybrid – Probable Extermination of the Two Races if Whites and Blacks Are Allowed to Intermarry" directly addressed an issue that had caused polygenists and their supporters some concern in previous years. In the *Histoire Naturelle,* Buffon had advanced the commonly accepted definition of a species as "a constant succession of individuals able to reproduce together." Nott's argument was that mulatto children were inter-species hybrids and would ultimately prove to be infertile because their parents were not of the same species. He added a few of his own observations based on his considerable experience practicing medicine in the South. He confirmed that mulattos were less capable of endurance and shorter lived, and he averred that mulatto women were more delicate and less able to bear children. Any children born successfully were subject to a disproportionately high rate of infant mortality. Nott realized that his assertions would bear greater weight if he could provide supporting statistics, but "habits and conditions" made this impossible – his assertions would have to "rest on my veracity alone." A

stereotypical Southern gentleman who was bound by the unwritten precepts of the code of Southern honor, Nott expected readers to accept his statements without question.[7]

Nott referred in his paper to Northern cities where "ample materials exist" to investigate the matter further. This is almost certainly a lightly concealed reference to Samuel Morton in Philadelphia. Nott was aware of Morton's scientific credentials as a data analyst and author following the publication of *Crania Americana* four years previously.[8] Some sources suggest that Nott was Morton's pupil as well as a follower, although the most authoritative work on Nott is clear that their correspondence and friendship began after Nott wrote his article. Whatever the true nature of the relationship, Nott referred to relative sizes of brain and intellectual power in the body of the article, undoubtedly using Morton's work as his source.[9]

The central core of the article is Nott's two hypotheses. First, he argued that the five commonly viewed races of man, Caucasian, Ethiopian, Mongol, Malay, and American, "may have been distinct creations, or may be mere varieties." Second, that "at the present day the Anglo-Saxon and Negro races are, according to the common acceptance of the terms, distinct species, and that the offspring of the two is a hybrid."

In the next few paragraphs, Nott attempted to set forth various conditions in which some hybrids do produce fertile offspring and others do not. Nott argued that since special laws were present in nature, it might be possible that human hybrids were

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[7] Horsman, *Josiah Nott of Mobile,* 87.

[8] Early in his medical career, Nott was anatomy demonstrator to Dr. Philip Syng Physick, of Philadelphia, who was also Samuel Morton's mentor.

[9] The relationship between Morton and Nott at this time is discussed in C. Loring Brace, "The 'ethnology' of Josiah Clark Nott," *Bulletin of the New York Academy of Medicine* 50, no.4 (April 1974): 509–28, and in Horsman, *Josiah Nott of Mobile,* 94-103.

also subject to special conditions yet unknown. In his conclusion, Nott made a few offhand statements such as "The mulattoes do not make good slaves, and are always leaders in insurrections." He quoted Sir William Lawrence, the English surgeon and author. Nott declared that there was "no better authority" on matters of race and quoted Lawrence's statement that "the intellectual character of the Europeans is deteriorated by the mixture of black or red blood."[10]

The article's implications were clear. Blacks and whites were the product of separate acts of divine creation, and the reduced fertility in relations between the races indicated that the separately created races were, in scientific terms, separate and distinct species. Nott, however, could not successfully assert that the progeny of black and white was completely infertile, and so he proposed special cases in which nature permitted the gradual extinction of hybrid races.

Nott's fame grew because of this article and the discussion it had engendered. In late 1843, the Mobile Franklin Society invited him to deliver two lectures on a subject of his own choice. Unsurprisingly, Nott's lectures were on race, and in them, he questioned the biblical account of the creation and its subsequent chronology. He made his opinion clear about the role and use of religion in matters of natural history.[11] The lectures generated sufficient controversy at the time that Nott arranged to have them published very shortly after their delivery.

In the introduction to the published lectures, Nott stated that religious dogma had prevented scientists and thinkers like him from holding a "fair and honest investigation"

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[10] Sir William Lawrence, *Lectures on Comparative Anatomy, Physiology, Zoology, and the Natural History of Man* (London: J. Taylor, 1840), 204.

[11] Horsman, *Josiah Nott of Mobile,* 88.

through the years when considering matters of natural history. He was sure that the religious establishment would persecute him just as it did Galileo. It was probably of little consolation to Nott that even though Galileo was right, the Bible remained the "Rock of Ages." The Book of Genesis, in Nott's opinion, was a field of "endless and angry discussion" about which religious authorities had failed to agree on meaning. "*All they have proved is, that they know nothing about it*" [Nott's emphasis].[12]

At this stage in his life, Nott's faith is a matter of question. He stated in the lectures that he had no desire to cast doubts on the divine origin of the Bible, that it was necessary to teach good morals, and there was no better place to look for an example than the teachings of Christ.[13] A presentist reading of his words might draw out an element of irony or deliberate provocation in Nott's tone. However, it is more likely an acknowledgement of the moral conscience and sensibilities of the citizens of Mobile, since sufficient provocation would follow in the remainder of the lectures.

Nott's principal target was the use of the Bible as a tool for teaching natural history. Commentators on the Bible had already been "forced to make large concessions to Astronomy, Natural History, and Geology." Nott's aim was to force further concessions by advancing the case that there had been a number of separate creations both before and after the time described by Moses. Nott also wanted to establish that the story of Noah's Ark was a local response to, and record of, a local catastrophe.

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[12] Josiah Clark Nott, *Two Lectures on the Natural History of the Caucasian and Negro Races* (Mobile, AL: Dade and Thompson, 1844), 4.

[13] Ibid., 5.

Furthermore, it seemed likely to Nott that other animals and races of men, including the Negros, Indians, and Malays, appeared on Earth before and after the flood.[14]

As well as challenging the biblical chronology, Nott's text was full of racist interpretations of history. The Ancient Egyptians were conquered by "inferior tribes, and the blood of her people adulterated," and the attention that Egypt received from Greece and Rome "could not wash out the black stain, moral and physical, she has received." It was also Nott's contention that no civilization had arisen in Africa save that of Egypt and that the attempts of modern men to "carry civilization into it" had failed.[15] Nott reasoned that that the Negros were inferior from the outset, and as such, any attempt at cultivating or civilizing them was wasted. While animals may have adapted to their climate, the basic human species were immutable. Man did not change to suit his climate by changing skin color, for example, because that was his fundamental nature. In his second lecture, he quoted the 1840 census and pointed to the fact that free blacks allegedly had a higher rate of mortality and insanity in the Northern states. He attributed this to physical weakness that allowed Negro brains to freeze in a colder climate.

In scientific terms, Nott proposed that there was a genus of man consisting of at least two species, and one could not become another even by a process of divine intervention. Nott asked which was more important - the unity of the races or an explanation for the entire history of creation.[16] In the conclusion of his second 1843

[14] Ibid., 12.

[15] Ibid., 16.

[16] Brown, *Until Darwin*, 63.

lecture, Nott resolved, "to me the laws of God, written in the Book of Nature are more venerable, and truth more sacred than all which emanates from erring man."[17]

Nott's views on the question of race and human origin are clearly racist and unscientific, but Nott's views were more than just the raving of a Southern racist. Reginald Horsman said, "To dismiss Nott as a fringe Southern polemicist … is to ignore the respect with which his views were treated in the North and Europe." Many intellectuals outside the United States gave his views a degree of scientific credibility.[18]

Based on his article, the two lectures in New Orleans, and a prolonged debate with an opponent in the influential pages of the *Southern Quarterly Review,* Nott had established himself as a respected figure in the scientific community instead of another learned Southern gentleman espousing overtly racist views.[19] Nott took the opportunity to acquaint himself with Samuel Morton, who made him a corresponding member of the Academy of Natural Sciences. At around this time, George Gliddon made himself known to Nott. Their mutual dislike of the clergy would make them the scourge of the "parsons" who abounded in the field of natural history. Nott gradually made the acquaintance of major scientific and cultural figures, inside and outside the United States. These included such notables as William C. Macready, the English actor who promised a wider distribution of Nott's works among his friends in London society, and Charles Lyell, author of *Principles of Geology*. Even though Lyell did not agree with Nott's

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[17] Ibid., 41.

[18] Horsman, *Josiah Nott of Mobile*, 98.

[19] Nott and Moses A. Curtis carried on an exchange of opinion between 1845 and 1846 in the pages of the *Southern Quarterly Review* after Curtis published a refutation of Nott's article in "The Unity of Races," *Southern Quarterly Review* VII (1845): 372-448.

theories and might be inclined to write "a good deal of trash" later, Nott applauded Lyell's honesty and genuine nature.[20] Nott also formed a friendship with James D.B. De Bow, a Southern publisher whose influential periodical *De Bow's Review* provided one of the major platforms for the discussion of Southern business, commerce, medicine, and life in general, as well as matters of race. Nott and many other authors used *De Bow's Review* as a platform for the defense of slavery in the South. His article "Statistics of Southern Slave Populations with special Reference to Life Insurance and the Question of Slavery and the Slave States" was both a comment on Negro mortality and a refutation of the concept of emancipation.[21] This was the first occasion on which Nott addressed the issue of slavery in print. During this time, Nott also corresponded with Ephraim G. Squier, author of *Aboriginal Monuments of the Mississippi Valley*. Squier's work on Native American burial mounds had further challenged the limitations of biblical chronology, and this delighted Nott.

In the space of a few years, Josiah Nott rose from the obscure life of a Southern physician to a point at which he was "in scientific correspondence with all Creation" and gained merit by association with his new circle of friends. Nott could point to a number of "heathens" like himself, including Morton, Gliddon, and Squier, who were happy to side with him that the authority of the Bible was suspect and that the creation myth was very much a myth. In December 1848, James De Bow, from his position of Chair of Political Economy at the University of New Orleans, invited Nott to deliver two lectures

[20] Nott to Morton, 23 February 1846 quoted in Horsman, *Josiah Nott of Mobile,* 102.

[21] Josiah Clark Nott, "Statistics of Southern Slave Populations with special Reference to Life Insurance and the Question of Slavery and the Slave States," *De Bow's Review* 4, (1840): 280.

on the connection between the biblical and physical history of man. These lectures had four points. First, the Pentateuch was not a reliable historical account and had lost a considerable amount of meaning in translations over the years. Second, transcribers and translators had distorted the original writing of the Bible as a whole beyond the point of comprehension. Third, the purpose of the Bible was as a moral guide, not a scientific text. Finally, nothing in the Bible supported the concept of unity of origin, or monogenism. Unlike his previous lectures, Nott was able to arrange a more prestigious publication in New York through the efforts of Ehpraim Squier. If Nott expected an immediate storm of reaction, he was disappointed. The *American Whig Review* managed to admit that readers "would find much to elicit thought" but said that Nott was not apparently treating scripture with "the respect usually given it by the most learned and valuable authorities."[22]

This was the time when the American School was in its ascendency. Led by Morton, and with loyal supporters in the shape of Nott, Gliddon, and Squier, the school challenged the authority of the biblical record, albeit for differing personal reasons. The theory of the plural origin found an appreciative audience in the Southern United States who could apply it, if they desired, to the social structure of their homeland.

In the mid-1840s, the final member of the American School professed his belief in polygenic theory, to the delight of Josiah Nott. Louis Agassiz, the Swiss scientist who immigrated to the United States, contradicted one of his previous statements that all men were equal in the eyes of God after a miraculous and instantaneous conversion to the theory of plural origin that took place in Philadelphia. Agassiz lent further scientific

[22] *American Whig Review*, X (1849): 439-40, quoted in Horsman, *Josiah Nott of Mobile,*113.

weight to the school based on his reputation as the premier natural scientist of his era. His penchant for publishing in popular and scientific journals, pursuing his desire to educate the public as well as his peers, increased his own credibility as a naturalist and his celebrity among the public. His activities as the latest member of the "American School" would culminate in some of the most intense debates on the nature and origin of the human race.

CHAPTER V

LOUIS AGASSIZ JOINS THE AMERICAN SCHOOL

In 1846, Louis Agassiz, the Swiss born naturalist who had made an international reputation by his studies of geology and marine biology, decided to settle permanently in the United States following a study and lecture tour sponsored by John Amory Lowell and the Lowell Institute of Boston. Abbott Lawrence, a Massachusetts industrialist, endowed the Lawrence Scientific School at Harvard University and Agassiz became its head, and Professor of Zoology and Geology. The protégé of Alexander von Humboldt, Agassiz came to represent not only the old world, albeit an old world that he had consciously left behind, but also the perceived respectability of the scientists of his adopted American northeast.

Agassiz' reputation as one of the foremost natural scientists of his generation had preceded him, and the Academy of Natural Sciences of Philadelphia had made him a corresponding member nine years before his journey across the Atlantic. John Amory Lowell, Boston philanthropist and first trustee of the Lowell Institute, welcomed Agassiz to America and almost certainly gave due respect to the "big fish" of European science, who now occupied a small but growing pond. Agassiz returned the favor in a whirlwind tour of scientific establishments in which he noted the keenness of everyone he met. One of his stops was in Philadelphia, where he called upon Samuel Morton and visited the home of the Academy of Natural Sciences. Morton was delighted with the meeting and

noted Agassiz' "astonishing memory, quick perceptions, encyclopedic knowledge of natural history and most pleasing manner."[1]

Some authors credit Agassiz with taking a leading position in the polygenist movement that legitimized the American School. This is at the very least an inaccurate extrapolation of the facts. The members of the American school had been actively engaging the scientific and religious establishment before Agassiz arrived on the scene.

Agassiz' reputation partly rested on classification and taxonomy. Among natural historians, the two main groups of taxonomists in the post-Enlightenment era were the "lumpers" and the "splitters." "Lumpers" tried to amalgamate differences in variety into a small number of species, whereas "splitters" were keen to do the opposite and introduce species variation for the smallest of reasons. Agassiz was one the great "splitters" and had previously separated a number of seemingly identical fish into discrete species based on minor differences in their dentition.

While in Philadelphia, Agassiz encountered African-American waiters at his hotel. This experience troubled him greatly; he wrote to his mother expressing his revulsion at their physical appearance and doubting whether these men, while clearly human, could be a member of the same species as European man.[2] The intellectual rationale for this reaction must be that Agassiz the great "splitter" had seen enough

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[1] Edward Lurie, *Louis Agassiz: A Life in Science* (Baltimore: Johns Hopkins University Press, 1988), 122; Morton to Samuel H. Haldeman, October 1846, quoted in Lurie, *Louis Agassiz: A Life in Science*, 125.

[2] James Lander, in *Lincoln and Darwin* (Carbondale, Southern Illinois University Press, 2010): 77, refers to Agassiz' "bizarre conversion" from monogenist to polygenist. He claims that this event was never publicly revealed until Stephen Jay Gould discovered it in 1981 while researching the *Mismeasure of Man.* However both Stanton's *The Leopard's Spots*, written in 1960 and Lurie's *Isis* article "Louis Agassiz and the Races of Man" from 1954 include references to the event and Agassiz' letter to his mother. Agassiz' reaction in Philadelphia was a known and published fact at least 27 years before Gould "revealed" it.

physical differences between himself and the African-Americans to bring to mind the potential for identification of a previously unrecognized species.

Like Morton, Agassiz' attitude towards biblical authority was, at best, ambivalent, although their ambivalence was not of an identical nature. For his first lecturing engagement, the Lowell lectures of 1846, Agassiz gave a "scientific demonstration of the spiritual quality underlying all material creation" that convinced audiences of the wonders of life and that humanity occupied the apex of the pyramid.[3] During the lectures, however, Agassiz told his audiences that Negroes probably did not share the same ancestry as whites, and he doubted that they could be the sons of Noah. This theory was not part of the accepted natural history of humanity as laid down by the Bible, and it apparently scandalized some of the audience. Asa Gray, professor of natural history at Harvard and one of Agassiz' colleagues, responded to concerns that further lectures might give offense. Gray wrote that while Agassiz had the highest respect for religion, he did not fully comprehend the situation of the Negro in the United States.[4]

The change in Agassiz' attitude to the African-American is due in part to his bizarre 'conversion' experience in the Philadelphia hotel. It is also indicative of an attempt to make his theories internally consistent. Agassiz had written since 1845 that the various plant and animal kingdoms around the world were the result of special acts of creation intended for individual zoological provinces. Continuing to claim that all of

[3] Edward Lurie, *Louis Agassiz: A Life in Science*, 127.

[4] John Torrey to Asa Gray, January 1847, quoted in Edward Lurie, "Louis Agassiz and the Races of Man," *Isis* 45, no. 3 (September 1954): 229.

humanity was one species sharing a common origin was no longer consistent with the rest of his scheme of special creation.[5]

Throughout the late 1840s, Agassiz lectured in Northern and Southern cities on natural history, geology, and the plural origin of humanity as well as on the differences between white and Negro. Southerners were particularly keen to hear what Agassiz had to say following the publication of Josiah Clark Nott's papers and lectures over the last three years. At a lecture to the Literary Club of Charleston in December 1847 in which he restated the biological distinctions between the white and Negro races, the Rev. Dr. John Bachman met Agassiz. The meeting was a disappointment to Bachman, as neither man had any knowledge of the other's area of study. Bachman was particularly disillusioned that the eminent natural historian knew little or nothing about mammals.

Agassiz spent the winter months from 1847 onwards in the kinder climate of Charleston, and he lectured at the College of Charleston, where John Bachman was Professor of Natural History. Clearly, there was considerable interchange between the two scientists, and Bachman referred to Agassiz in his own seminal work *The Doctrine of the Unity of the Human race Examined on the Principles of Science* (Charleston, Canning, 1850). At this time, Agassiz was without doubt preparing to make public his espousal of the concept of plurality.

Agassiz harbored a desire to garner popular public support for his scientific theories. No doubt, he was enthused by the celebrity welcome that Americans afforded him, and he certainly sought to repay that welcome in the lectures that he gave to enthusiastic audiences. His lecturing fees were sufficient to repay debts he had incurred

[5] Lurie, "Louis Agassiz and the Races of Man": 233.

in Europe. This income caused him to consider deferring European museums' requests for zoological specimens in order to continue lecturing.[6] His choice of publishing forum was not the professional scientific press, and the subject matter of his articles may give a clue to his motivations. In March 1850, he chose to publish an innocuously titled article, "Geographical Distribution of Animals," in the pages of the *Christian Examiner, "*a Boston Unitarian journal of liberal religious views."[7] In this article, he wrote that scriptural accounts did not support the belief that there was a "common center of origin to all living things on earth." It was impossible that animals could have spread out and populated the entire planet from a single point of creation. His alternative theory was that there were several centers of origin from which "organized beings were afterwards diffused over wider areas." Based on the variation and distribution of animals and flora, Agassiz proposed at least eleven distinct centers of creation, each of which had similar climates.[8] The article concluded that the "principal races of man, in their natural distribution, cover the same extent of ground as the great zoological provinces," but Agassiz declined to go deeper into "a subject involving so difficult problems as the question of the unity or plurality of origin of the human family." He was happy to show that animals, at least, "did not originate from a common center, nor from single pairs, but according to the laws which at present still regulate their existence."[9]

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[6] Lurie, *Louis Agassiz: A Life in Science,* 129.

[7] Louis Agassiz, "Geographical Distribution of Animals," *The Christian Examiner and Religious Miscellany,* (Fourth Series 13, no. 2, March 1850) 190-2*,* Lurie, "Louis Agassiz and the Races of Man": 235. One of the publishers of the *Christian Examiner* was George Putnam, a fact that may give some indication of the title's popularity and distribution.

[8] Louis Agassiz, "Geographical Distribution of Animals," *The Christian Examiner and Religious Miscellany,* (March 1850),193.

[9] Ibid., 204.

Part of Agassiz' religious aim was no doubt to demonstrate to the faithful that according to his theory, the creationist God actually was responsible for acts of creation in as many as a dozen separate places. In his view, the prospect of creation was all the more magnificent because of the attention to zoological detail shown by the Almighty in the arrangement of flora and fauna in eleven or twelve places rather than just one. Agassiz would prove to be one of the last renowned scientists to deny the validity of Darwin's evolutionary theory that rendered this elaborate panorama redundant.

Having sidestepped the issue of human origins in the *Christian Examiner,* Agassiz took up the issue at the Third Annual Meeting of the American Association for the Advancement of Science, which took place in Charleston in March 1850. The AAAS meeting happened at a time when the debate on humanity's origin was about to enter "its most explosive phase."[10] A small flurry of publishing on human origin provided a background to the meeting. The *Charleston Medical Journal and Review* began publishing the hybridity debate between Morton and Bachman. Josiah Nott had followed some political commentary on human origin and Negro slavery with a paper on the natural history of the Jewish race that he intended to present at the Charleston meeting.[11] Theologians around the country had taken offence at the pronouncements of the pluralists. Agassiz' fame and reputation was sufficient that a pronouncement from him would give considerable weight to one or other side of the argument. In the event, Nott was unable to attend the meeting in person, so after a reading of Nott's paper, Agassiz took the floor. He wanted to take the opportunity "to correct some mis-statements or at

[10] Lurie, "Louis Agassiz and the Races of Man": 235.

[11] *Proceedings of the American Association for the Advancement of Science, Third Meeting held at Charleston, SC, March 1850* (Charleston: Walker and James, 1850), 98-106.

least misapprehensions of his views on the subject of the Unity of the Human Race or rather with regard to diversity of the different races of men."[12] While continuing to acknowledge that all men were common in possession of moral and intellectual powers that "raised them above the brutes," zoologically speaking, the several races of man were "marked and distinct" and had been so since ancient times.[13] This theory did not contradict scripture, since scripture, according to Agassiz, noted other people already on the earth when Cain took refuge.

Josiah Nott was of course delighted to see Agassiz making such a public and authoritative statement. The ebullient declaration Nott wrote to Morton in May 1850, "With Agassiz in the war the battle is ours," has been repeated in many histories of the subject.[14] Agassiz' reputation and status in the community would be sufficient to bring public opinion to the polygenists' side, and the religious dogmatists would necessarily concede the validity of scientific theory. Agassiz' use of the term "race" rather than "species," indicates that even among the most eminent scientists, matters of precise terminology were still unresolved.

Agassiz followed the events at the AAAS meeting by publishing a more detailed article, "The Diversity of Origin of the Human Races," in the July 1850 issue of the *Christian Examiner*. He was aware of the controversy he may have stirred up with his involvement at the meeting, and in the article, he stated that his intention was not to "enter into controversy with those who differ from him" but only to put forward the

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[12] *Proceedings of the American Association*, 107.

[13] Ibid., 107.

[14] Nott to Morton, 26 May 1850, quoted in Lurie, "Louis Agassiz and the Races of Man", 237.

essential points in an "investigation of the origin of all those races of men." In addition to claiming a kind of scientific neutrality on the question, Agassiz also refuted the charge of those who might consider his theory antagonistic to religion. In a footnote, he said that "the application of insulting epithets like that of 'infidel' by certain divines…will neither strengthen their position nor tarnish my character."[15]

The article, which was published later in booklet form, was an intricate weaving of a number of theories into a unified whole. Agassiz, true to his traits, split the question of human origin into two smaller issues, namely the "unity of mankind and the diversity of origin of the human race."[16] He managed to be true to his earlier belief that humanity was as one under God, but he returned to familiar ground when dealing with the scientific issue of the actual zoological species. Agassiz asked where scripture referred to the inhabitants of Japan, China, New Holland, or America, and he postulated that even if they were not the descendants of Adam and Eve, their existence would not conflict with anything written in Genesis. Nobody, according to Agassiz, could object, "Except those whose religion consists in a blind adoration of their own construction of the Bible."[17]

Agassiz admitted that the belief in plural origin as stated in his article "tended to the support of slavery," but he evaded the question in two ways. First, he said that the question of human origin did not solely involve the Negro but included the other Asian races as well. "If the question of slavery had ever been connected with the colored races of Asia and America, we would acknowledge that these views might have some bearing

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[15] Louis Agassiz, "The Diversity of Origin of the Human Races," *The Christian Examiner* (July, 1850): 1 (footnote).

[16] Ibid., 2.

[17] Ibid., 4.

upon the subject. But is it really so?"[18] Second, Agassiz side-stepped the whole issue by invoking the higher call of scientific neutrality, saying he was investigating all humanity instead of one colored race and that any question of slavery should be left to the politicians to "see what they can make with the results."[19]

A retreat into the ivory tower was not possible in the United States in 1850. This was a period in American scientific and social history when there was little, if any, middle ground.[20] In a deeply partisan and sectionally divided society, Agassiz and his views were a prize to be claimed by one side or the other, whether he wanted it or not. Despite his assertions that he was a free scientist and not embroiled in the political turmoil of the period, Agassiz contradicted his own assertion. Having stated that all men were "of one blood," he went on to say there were

> different races of men, inhabiting different parts of its surface, which have different physical characters; and this fact, as it stands, without reference to the time of its establishment and the cause of its appearance, requires farther investigation, and presses upon us the obligation to settle the relative rank among these races, the relative value of the characters peculiar to each, in a scientific point of view.[21]

As if to add further emphasis, Agassiz referred to Morton's work on the Native Americans and said, "The indomitable, courageous, proud Indian, - in how very different a light he stands by the side of the submissive, obsequious, imitative negro, or by the side of the tricky, cunning, and cowardly Mongolian!"[22]

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[18] Ibid., 3.

[19] Ibid., 4.

[20] Lurie, "Louis Agassiz and the Races of Man": 238.

[21] Louis Agassiz, "The Diversity of Origin of the Human Races," *The Christian Examiner* (July, 1850): 33.

[22] Ibid., 35.

These few words of condemnation established Agassiz firmly as a scientific racist and confirmed his membership of the American School. His comments, however well-intentioned they may have been, provided further support material for those who initially wanted no more than his reputation and tacit understanding to embellish their cause. However as events unfolded, it was obvious that Louis Agassiz had recruited himself to stand in the ranks of the American School.

CHAPTER VI

"MORTON'S NEMESIS": THE REV. DR. JOHN BACHMAN AND THE DEBATE IN CHARLESTON.

There is a certain irony in considering that the strongest and most vocal opposition to the views of the polygenists came not from the abolitionist press in the North but from the pen of a renowned naturalist and slave-owning Lutheran pastor from South Carolina. The Reverend Dr. John Bachman had moved from his native Rhinebeck, New York to Charleston in 1815 while suffering from tuberculosis. In part, his reason for choosing Charleston was that a warmer climate was the only remedy for TB known to medical science at the time. Charleston was also the home of St. John's Lutheran church, one of the largest Lutheran congregations in the South.[1]

In addition to his religious calling, Bachman was a keen naturalist, and Charleston, with its wealth of old learned societies and intellectual activities must have seemed to be a double blessing for him. Natural History was still a subject for the well-heeled amateur rather than the dedicated specialist, and while the town may not have raised an intellectual community such as had emerged in Philadelphia, it was still fairly well known and regarded itself as a cut above other Southern cities. At the time that the American Civil War broke out, the three main centers of scientific endeavor in the United States were the Boston/New York/New Haven axis, the city of Philadelphia, and Charleston.[2]

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[1] Lester D Stephens, *Science, Race, and Religion in the American South: John Bachman and the Charleston Circle of Naturalists, 1815-1895* (Chapel Hill: University of North Carolina Press, 2000), 2.

[2] Stanton, 123.

From early in his career Bachman practiced experimental natural history rather than relying on Baconian methods of observation that remained popular elsewhere. For example, he sought to prove by experiment that turkey vultures and buzzards located their food by sight rather than smell.[3] John James Audubon visited Charleston in 1831 and started a friendship with Bachman that would continue for twenty years until Audubon's death in 1851. Audubon's "strong desire for acclaim" occasionally obscured Bachman's talent in ornithology, although Audubon named three species of birds after Bachman, including the Bachman's Warbler *(Vermivora bachmanii).*[4] Additionally, Bachman contributed to science in the fields of botany and zoology, developed an interest in mammals, and submitted several papers to the Academy of Natural Sciences in Philadelphia in 1836 and 1837.

Some writers, including William Stanton, have characterized Bachman as a clergyman who was also an amateur naturalist, thus damning him with faint praise or implying that he was trying to fulfil two roles and not performing either of them adequately. Bachman's publication record indicated that despite his activities as a member of the clergy, he was no amateur meddler. Similarly, his association with scientific personalities of the day and his defense of the "widely reviled" Audubon against numerous critics actually increased his scientific reputation.[5] In 1848, the College of Charleston invited Bachman to take the chair of Natural History. His

[3] Stephens, 166.

[4] Ibid., 18.

[5] Lester Stephens consistently rejected William Stanton's claim in *The Leopard's Spots* that Bachman was "half theologian, half scientist." Despite the perceived slur, Stanton credits Bachman with a theory that approached Darwin's theory of evolution while "plotting his course among these scientific theories and theological doctrines" (133).

participation in the life of the college seems to have been somewhat sketchy, and his disciplinary record in respect of his students was poor. It is possible that later historians used reports of his effectiveness as an academic administrator to weaken or undermine the accolade that his initial appointment represented.[6]

Bachman struck up a correspondence with Samuel Morton when another Academy member in Philadelphia claimed Bachman's discovery of a variety of shrew as his own. The correspondence with Morton continued for some time in a cordial, if professional tone, while Morton forwarded Bachman's papers to the ANSP for their consideration. At the same time, Bachman's relationship with the Audubon family suffered while he and John James Audubon both worked to different purposes on the first volume of *The Viviparous Quadrupeds of North America.* He threw himself into the preparation of the *magnum opus,* occasionally aided and sometimes hindered by Audubon and his family, especially by the growing mental illness that clouded John James Audubon's later years.

Bachman had encountered Louis Agassiz for the first time in 1847 while on the latter's first whirlwind tour of the South. Agassiz' visit raised the profile of Charleston as a center for the study of natural history, to the pleasure of the resident naturalists known unofficially as the "Charleston circle." The visit gave them reason to believe that their city could justifiably stand on equal terms with the great scientific centers like Philadelphia and Boston, even though access to libraries and current books in the South was a considerable problem. Nevertheless, many scientists and naturalists in Charleston wanted to meet with Agassiz, including Bachman, who was doubtlessly seeking

[6] Stephens, 55.

validation from the master for his own studies. When it happened, the meeting was something of a disappointment. Agassiz' strengths were in geology and marine life, not birds and mammals, and his lack of knowledge in those areas was a source of dismay for Bachman.[7] This early disappointment may have been a contributory factor to a growing antipathy between the two men, although Agassiz' subsequent public espousal of the theories of the American School on the origin of humanity would have given Bachman sufficient cause to stand in direct opposition to him irrespective of any other matter.

Bachman was almost certainly in the audience when Louis Agassiz lectured to the Literary Club of Charleston on the distribution of animals and the physiological separation between the Negro and white species. Samuel Morton's research into the varied origins of humanity had resulted in his article "Hybridity in Animals, Considered in Reference to the Question of the Unity of the Human Species" in the *American Journal of Science* at around the same time.[8] There is some speculation as to why Bachman did not immediately write a rebuttal to Agassiz' paper. He and another Charleston clergyman and naturalist, the Rev Thomas Smyth, replied to Agassiz' paper, but the meeting secretary did not record the nature and content of the verbal replies. Bachman's extensive work with the Audubons was one of many factors that may have diverted his attention, although it is more likely that he thought Morton's paper required more attention, since Morton was arguably the most notable scientist defending the polygenist view at that time. In the late 1840s, Agassiz was in agreement with Morton's

[7] Ibid., 52.

[8] Lurie, "Louis Agassiz and the Races of Man": 235; Samuel George Morton, "Hybridity in Animals, Considered in Reference to the Question of the Unity of the Human Species," *American Journal of Science and Arts* 3, 2nd Series (1847): 39-50, 203-12.

views but was doing little more than channeling them into his own theories of zoological provinces. However, this would soon change.

Bachman and Smyth's engagement with Agassiz laid the foundations for two significant works on the topic of human origin. In January 1850, Smyth had also taken issue with Josiah Nott in the pages of the *Southern Presbyterian Review* to defend the unity of the human races against Nott's polygenic utterances. Nott was happy to be in "open conflict" with the clergy, and he reported the event in due course to Samuel Morton.[9] Bachman's own work was the precursor of his own scholarly tussle with Morton and Nott. While Nott's reputation and passion for public speaking on matters of race had grown in the later 1840s, making an individual confrontation with Bachman inevitable, it may be that Bachman's perception of him as simply an associate of Morton rather than an eminent scientist in his own right may have lessened his attraction as a suitable opponent. This is not to say that Bachman discounted Nott, but Morton was clearly the bigger target. Morton's reputation as a distinguished member of the Academy of Natural Sciences of Philadelphia would have been more highly regarded among the scientific and intellectual community. A physician from Mobile, even one like Nott with a number of published papers, a successful medical practice, and a growing following among elements of Southern society who were sympathetic to his increasingly racially charged polemics, commanded less respect from the scientific establishment.

In 1849, Bachman wrote to Morton to propose a discussion of the origins of mankind. He wanted to inform Morton that the Literary Society of Charleston had asked him to review an essay by Josiah Nott. The letter was cordial but blunt. Bachman

[9] Horsman, *Josiah Nott of Mobile,* 114.

warned Morton that he intended to go into print. Some of the authorities Morton cited had been disproved, and although he preferred to battle "for truth, not for victory," he intended to "scatter" some of Morton's facts "to the wind."[10]

Bachman's book, *The Doctrine of the Unity of the Human Race Examined on the Principles of Science*, created a considerable stir on its first publication just before the third annual meeting of the AAAS in Charleston in March 1850. Louis Agassiz had lobbied to have the AAAS meeting convene in Charleston, and Bachman, who was a member of the local committee, presented a copy of his book to the Association. In view of what was to take place at the meeting, it was unfortunate that Bachman had cited Agassiz from his 1845 work as being an authority on the single origin of the human race. Josiah Nott could not attend in person but sent the Association a paper on the natural history of the Jewish race.[11] The controversy over the origins of humanity was entering a crucial stage, and the intellectual and scientific community widely believed that Agassiz would finally make a statement of his own views on the matter. This he did, after Nott's paper was read to the Association. Agassiz' public adoption of polygenic theory was a shock to the church and a delight to the South. Those present at the meeting noted Bachman's devastation at Agassiz' remarks. He declined to offer detailed comments, suggesting that he was genuinely upset or that he had the presence of mind not to be involved in a direct confrontation with the most eminent scientist currently in the United

[10] Bachman to Morton, October 15, 1849, quoted in Stephens, 172.

[11] Horsman, *Josiah Nott of Mobile*, 114; J. C. Nott, "Examination of the Physical History of the Jews": in *Proceedings of the American Association for theAdvancement of Science, Third Meeting held at Charleston, SC, March 1850* (Charleston: Walker and James, 1850), 98-106.

States at a high-profile gathering such as the annual meeting of the AAAS. Thomas Smyth recorded in a footnote in *The Unity of the Human Races* that

> The Rev. Dr. Bachman said he was not disposed to discuss the question before the Society… he should take occasion, without entering into any argument to sustain his own particular views, which he had done elsewhere, to state simply, that he differed, *in toto*, from the position assumed by that learned gentleman in reference to this subject.[12]

Smyth also noted that he had "expressed his entire concurrence in the views advanced by the reverend and learned gentleman who had just taken his seat."[13] Josiah Nott was delighted when he heard the news, both of Agassiz' declaration and of Bachman's refusal to give a detailed rebuttal.

It may be that Bachman refused to comment in detail on Nott's paper and Agassiz' comments at the AAAS meeting because he had made what he considered to be a definitive statement on humanity's origins in the pages of his book. Although he was unable to keep religion out of the text completely, the majority of the work was a purely scientific treatment of the origin of humanity. As he had warned Morton, much of it was a very detailed dismantling of the latter's theories as expressed in *Crania Americana*, *Crania Aegyptica*, and his 1846 paper on hybrids. Bachman was the best-qualified authority to refute Nott's racially charged tracts and Morton's hypotheses, and his book was probably the best of the monogenists' efforts to capture "the contradictions that animated the monogenic / polygenic discourse."[14] However, some procedural or

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[12] Thomas Smyth, *The Unity of the Human Races, Proved to be the Doctrine of Scripture, Reason and Science, Review of the Present Position and Theory of Professor Agassiz* (New York: Putnam, 1850), 353.

[13] Ibid., 353.

[14] Brown, *Until Darwin,* 96.

methodological errors crept into both sides of the argument. Morton "either ignored or had no knowledge of the skull as a taxonomic character. Not even Bachman questioned his procedures."[15] Perhaps Bachman was being unnecessarily polite with Morton, since it seems unlikely that Bachman would let such a basic procedural issue go uncommented and even less likely that he would fail to notice an issue of this nature.

However, Bachman noted the growing desperation of Morton and his followers as they tried to demonstrate that humanity was able to produce inter-species hybrids, and he criticized the tactic directly. He stated, "If the races of man produced fertile offspring with each other, and the races of lower animals did not, then they would be obliged to prove that man was an exception to this universal and invariable law."[16] In fact, Bachman said that the polygenists possessed no such evidence and so they "ransacked the almost forgotten tales of ancient travelers and dragged from obscurity the vulgar errors long hidden beneath the dust of antiquity" in order to prove their point.[17] The fact "that all the races of mankind produce with each other a fertile progeny…constitutes one of the most powerful and undeniable arguments in favour of the unity of the races."[18]

Bachman, the theologian and pastor, was not disturbed by doubts being cast upon the Ussher chronology of the earth or by research being undertaken elsewhere by Egyptologists such as Karl Richard Lepsius. In his concluding chapters he stated, "If man is proved to be composed only of one species, the age in which he originated will

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[15] Stephens, 167.

[16] Bachman *The Doctrine* , 117.

[17] Ibid., 118.

[18] Ibid., 119.

not (at least as far as science is concerned) affect the validity of his claim."[19] For Bachman, the Mosaic history was true no matter what the different chronologies said.

Smyth's book, *The Unity of the Human Races, Proved to be the Doctrine of Scripture, Reason and Science,* devoted a chapter to Agassiz' theories and highlighted his publications and opinions before and after his "conversion" experience in the United States. In the true style of a Victorian gentleman and minister, Smyth gave due credit to Agassiz' reputation as an eminent expert on the "lower animals," but in reference to Agassiz' conversion to his new viewpoint, he quoted the old Latin proverb from Seneca, *homines amplius oculis quam auribus credunt* – Men are more able to believe their eyes than their ears.[20] He summed up the entire rational argument against polygenesis and the "splitters" when he refuted the eminent scientist towards the end of his chapter, "How can Mr. Agassiz consistently argue against the single origin and species of man because of differences among the human races which are so trifling in comparison with those in other animals?"[21]

Bachman's own position on racial equality, however, is not what one might expect. Both he and his wife owned slaves, and presumably, he found the same scriptural authority for keeping slaves as many other Southern slave holders. In the first chapter, Bachman refers to "the fact that nature has stamped on the African race the permanent marks of inferiority—that we are taught by their whole past history the lesson of their incapacity for self-government, and that the Scriptures point out the duties both of

[19] Ibid., 286.

[20] Smyth, 355.

[21] Ibid., 364.

masters and servants."[22] Bachman's ownership of slaves and his belief in its foundation in scripture while simultaneously being an opponent of the plural origin of humanity further underlines the fact that the polygenist / monogenist debate was not clear-cut in its ideological divisions. It was not a question of polygenists and monogenists lining up equally as pro-slavery vs. abolitionists, since adherents on both sides held differing views on slavery. Bachman's church practiced segregation, yet he trained three of the first African-American members of the clergy. This paradox only serves to emphasize the tangled nature of the question in American society, although the issue was not as complex in Southern minds.

In February 1851, Nott reviewed Bachman's book in the pages of *De Bow's Review.* The review was a calculated assault on the church, the monogenists, and Bachman himself. In the review, Nott declared that no "scientific work ever published in the United States was looked for with more intense interest than the one of Dr. Bachman, under review," and that he considered himself "ready to confess our errors at the altar of truth, if we were wrong." It was, of course, highly unlikely that a man with a sufficiently developed ego as Nott should wish to declare himself convinced by Bachman's arguments, whether or not they were correct. Nott's dislike of the organized church dated back many years, and his personal quest for free scientific enquiry gave additional flavor to his diatribe against religion as a whole. Nott continued with a hint of almost hypocritical glee and declared that Bachman's book engendered "such bitter feelings of mortification and disappointment-—mortification, from its utter want of Christian charity and courtesy, and disappointment, from its loose statements of facts, its endless

[22] Bachman, *The Doctrine,* 8.

assumptions, and entire want of rigid, scientific reasoning."[23] Nott pounced upon Bachman's statement in *The Doctrine* that "Nature has stamped on the African race the permanent marks of inferiority;" he was happy to see that someone from the monogenist camp had admitted that there was an element of racial ranking in humanity, even if the author continued to deny the method of its origin.[24]

Having seen what he took to be a chink in Bachman's armor, Nott proceeded to quibble and argue with each of the major scientific points that Bachman made in his book. According to Nott, Bachman had failed to provide any evidence to counter or deny the polygenists' theories. On the matter of hybridity, Nott was prepared to make a "passing critique" and refer the matter to Samuel Morton, who was "now at work on this point, and we may safely leave the matter in his more able hands."[25]

Bachman's original letter to Morton, meanwhile, had failed to elicit a response. In January 1850, he wrote an article specifically aimed at Morton and sent it to the *Charleston Medical Journal and Review* for publication. The article contained much that was in the *Doctrine of the Unity,* but its intention was to provoke a reply from Morton.[26] The reply came at the end of March 1850 in a 20-page letter that appeared both in the *Charleston Medical Journal and Review* and as a pamphlet. Morton's reply was a study in Victorian gentility and was considerably less vitriolic in tone than Nott's book review.

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[23] Josiah Nott, "Diversity of the Human Race," *De Bow's Southern and Western Review* 3rd Series 4, no 2 (February 1851): 113-4.

[24] Bachman, *The Doctrine,* 8.

[25] Josiah Nott, "Diversity of the Human Race": 122.

[26] John Bachman, "An Investigation of the Cases of Hybridity in Animals on Record, considered in reference to the Unity of the Human Species," *Charleston Medical Journal and Review* 5, no.2 (March 1850): 168-97.

He was obviously aware of his position as a scientist of repute and equally aware that he was addressing a peer, even one with whom he differed. He claimed, "no difference of opinion can diminish my esteem for you as a man, or lessen my admiration for one who, by common consent, stands in the front rank of American Zoology."[27] Morton expressed surprise that Bachman should reject the authorities he had cited, and in his twenty-page reply he successfully "danced around" Bachman's observations and objections without actually answering any of them.[28]

Many of the gentleman scientists and intellectuals were satisfied with the tone of Morton's reply to Bachman. The next issue of the *Charleston Medical Journal* contained Bachman's reply. The editors, no doubt being astute enough to recognize the value of an ongoing debate to circulation, subscription, and publicity, requested a further reply from Morton, also saying that they did not wish to allow "Dr. B. to keep his ground unmolested."[29] Bachman's single-minded devotion to his cause did irritate members of the Charleston circle, even if his reputation as a naturalist among them was unassailable. In the opposition camp, however, Nott described Bachman as a "blackguard" who did not conform to the ways of Southern honor and did not write like a gentleman.[30]

Bachman's reply to Morton was considerably less gentlemanly but exhibited more frustration than any retaliatory intent. Morton was sticking to his original arguments, citing ancient sources and choosing a few verses from the Bible to illustrate his points.

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[27] Ibid., 3.

[28] Stephens, 185.

[29] Ibid., 186.

[30] Ibid., 186.

Bachman seized on this and accused Morton of deliberately perverting "scripture's simple and expressive language."[31]

Morton countered with *Additional Observations on Hybridity in Animals, and on Some Collateral Subjects: Being a Reply to the Objections of the Rev. John Bachman*. In his reply, he wearily explained to Bachman that the antiquity of any source did not lessen its truth. Contrary to Bachman's claim that there were errors "in every paragraph" of his reply, his opponent had commented on thirty of the paper's ninety-seven paragraphs, or less than a third of the total content.

Bachman declined to reply to this answer and to two further papers that Morton sent to the *Charleston Medical Journal and Review*. Nott, the most vocal member of the polygenists, congratulated Morton at Bachman's "annihilation." An anonymous reviewer in the *Southern Quarterly Review* gave a glowing review of Agassiz' *Christian Examiner* article as well as of Morton's two articles and a work by Robert Knox. Morton had concentrated in his most recent paper on the qualities of the Negro race, and had used the assertions of a flawed monograph comparing the hair of the Negro to the wool of a sheep to confirm his theory the Negros were not of the same species as European man. Members of Southern society yet again took these assertions to their hearts and used them not only to reject religious dogma on the unity of the human race but also to confirm the long-standing inferiority of the Negro.

Bachman's silence did not indicate that he had surrendered. In the spring of 1851, he sent another article to the *Charleston Medical Journal and Review.* His growing

[31] John Bachman, "Second letter to Samuel G. Morton on the Question of Hybridity in Animals, Considered in Reference to the Unity of the Human Species," *Charleston Medical Journal and Review* 5, no. 5 (September 1850): 621-60, quoted in Stephens, 188.

irritation with Morton's genteel sophistry and evasion is apparent from the text. Morton's insistence on citing ancient sources was, to Bachman, merely unearthing "the exploded errors of antiquity…from the dust of bygone ages."[32]

The debate would doubtless have continued into further editions of the *Charleston Medical Journal and Review*, but fate intervened. Morton, never a man in good health and suffering a collapsed lung following an attack of pleurisy, retired on the evening of May 10, 1851 after having complained to his family that he felt unwell. He died the following day, aged 52. Bachman sent a letter in the *Journal*, informing them that he would suspend his contribution to the debate for the time being.[33]

Bachman's contribution to the debate on human origins was significant in its own right. He had met Charles Darwin in London in the late 1830s, and Darwin had transcribed his impressions of the meeting and some of Bachman's ideas in his notebooks.[34] Bachman's exchanges with Morton were notable in that Bachman was probably the most influential natural historian at the time to stand up to the polygenists and engage them in debate in the scientific press. It is unfair to dismiss Bachman as one of the legions of clergyman who dabbled in science as a hobby. If history records him merely as "An amateur naturalist, a clergyman, or the founder of Newberry College" then

[32] John Bachman, "Additional Observations on Hybridity in Animals and on some collateral subjects," *Charleston Medical Journal and Review* 6, no. 3 (May 1851): 383-96.

[33] John Bachman, "Letter from Rev John Bachman DD," *Charleston Medical Journal and Review* 6 (1851): 598, quoted in Stephens, 194.

[34] Lander, 82.

history may be unwittingly "giving validity to a legacy of the triumph of polygenic theory" by encouraging future readers to overlook his role in the debate.[35]

Bachman's 1850 intervention and his argument with Samuel Morton was not the end of his activity. That he did not debate with Nott directly at this time is partly because Nott was highly active in the political arena, speaking and publishing tracts in defense of slavery and supporting white supremacy. In 1851, Nott returned to the purely scientific fray and wrote a startlingly uncomplimentary review of Bachman's *Unity* in the pages of *De Bow's Review.* Characteristically, Nott contrived to change one of Bachman's post-nominal honors from "Amer.[ican] Assoc.[iation for the Advancement of Science]" to "Am. Ass.," although he denied any personal involvement and tried to implicate his printer in the deed.[36] Shortly afterwards, Bachman engaged both Nott and George Gliddon, who had been assembling a major ethnological work as a tribute to their deceased leader. The next phase of the debate would be every bit as robust as the first and would turn out to be considerably more acrimonious.

[35] Brown, *Until Darwin,* 95.

[36] Josiah Nott. "Diversity of the Human Race." 113-132. Stephens, 197 and other sources list Nott's insult as "Amer. Ass." whereas the original text clearly shows this to be "Am. Ass." Nott claimed, unconvincingly, that this was a typographical error and nothing to do with him. Horsman says that Nott "plainly lied."

CHAPTER VII

NOTT AND GLIDDON: TYPES OF MANKIND

Samuel Morton's death in 1851 was a blow to the American scientific community, which eulogized him at some considerable length. To the members of the American School, the loss was crippling in that they had lost a rallying figure of great reputation. Neither Josiah Nott nor Ephraim Squier, both published and respected practitioners of their respective arts, could match Morton's authority. Even George Gliddon, despite having a widespread and probably self-generated reputation as an Egyptologist, was less a scientific figure and much more an antiquarian snake-oil salesman who managed to attract ridicule in various circles, from anonymous doggerel writers to the elegant pen of Edgar Allen Poe.[1] Yet after Morton's death, it was Nott and Gliddon who assumed his mantle. They assembled two books on ethnology that in their view confirmed the plural origins of humanity and believed they had finally settled the matter in favor of science.

The first book, when it appeared in 1854, was titled *Types of Mankind: Or, Ethnological Researches : Based Upon the Ancient Monuments, Paintings, Sculptures, and Crania of Races, and Upon Their Natural, Geographical, Philological and Biblical History, Illustrated by Selections from the Inedited Papers of Samuel George Morton and by Additional Contributions from L. Agassiz, W. Usher, and H.S. Patterson.* Its publishers proudly announced the vastly expanded edition, which had doubled in size

[1] Edgar Allen Poe's short story "Some Words with a Mummy" appeared in the April 1845 issue of the *American Review*. In it, a group of characters including a 'Mr. Gliddon' unwraps and re-animates an Egyptian mummy named 'Allamistakeo' by applying electricity to it. In the conversation that follows 'Allamistakeo' criticizes Gliddon's understanding of ancient Egyptian society.

from the original prospectus, while retaining the original price of five dollars per copy. Non-subscribers could obtain a bound volume at seven and a half dollars.

In addition to being extraordinarily expensive *Types of Mankind* combined to form a massive work of over 700 pages. A quotation from Byron on the title page, "Words are a small drop of ink… that which makes thousands, perhaps millions think," belied the large amount of ink that its publishers had expended. Surprisingly, its production took a little over fifteen months. In the preface, Gliddon said the book owed its inception to a visit that he made to Mobile in April 1852, when he sought to renew his acquaintance with Nott. After some time it occurred to both of them that they could honor their mentor, Morton, by writing some articles based on any of his remaining papers, with the approval of his family. Nott needed little persuasion to join the project, and when he and Gliddon received a mass of papers from Morton's widow, including an unfinished and unpublished monograph, their objective changed from a few articles to a significant work on the subject of ethnology. Nott's own account of *Types of Mankind*'*s* birth varies in some details. In this version, Gliddon was short of money, and Nott, ever the Southern gentleman and eschewing any financial reward himself, agreed to write his parts of the book in a gesture of *noblesse oblige* because he could not bear to see Gliddon and his family starve.[2] In addition to the Morton papers, Henry Patterson, a Philadelphia physician and Morton associate, supplied a dedicatory chapter on Morton's "life and scientific labors." William Usher supplied an essay on Geology and Paleontology in connection with human origins; this became the eleventh chapter of the book.

[2] Josiah Nott and George R. Gliddon, *Types of Mankind* (Philadelphia: Lippincott, Grambo, 1854, Preface; Horsman, *Josiah Nott of Mobile,* 174.

Undoubtedly, the biggest coup of the work was the chapter by Louis Agassiz, who visited and lectured in Mobile, met with Nott and Gliddon, and agreed to contribute to their work. In the estimation of science, to have Agassiz' name among the authors and contributors would elevate *Types of Mankind* significantly. However, one commentator described Agassiz' contribution as "the most embarrassing memorial to the career of the otherwise distinguished Swiss American naturalist," and like others implied that in some way Agassiz had been duped into providing a contribution or was unaware of what he was doing.[3] It is inconceivable that Agassiz was unaware of the consequences of his involvement, and it is unlikely that he was blind to the power of his celebrity following the devoted attention he received following his *ex-cathedra* statements in Charleston. Nott and Gliddon's project presented a new opportunity to air his theories about the fixity of species and to restate his opposition to the concept of transmutation.[4] Josiah Nott was also a man of considerable personal charm, and this must have had some effect on Agassiz. Writing in 1856, Agassiz said that Nott was "a man after my [own] heart, for whose private character I have the highest regard." Agassiz found Gliddon "coarse," although he admitted that Gliddon seemed to know a great deal about antiquity.[5] For all this, Agassiz found the company of Nott and Gliddon preferable to the criticism of monogenists such as Bachman, whose minds refused to admit his arguments.[6]

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[3] C. Loring Brace, *"Race" is a Four-Letter Word*, 101.

[4] Lurie, *Louis Agassiz: A Life in Science,* 262.

[5] Horsman, *Josiah Nott of Mobile*, 177.

[6] Desmond and Moore, 263.

Several commentators have described Nott and Gliddon's book as a compendium, or more pejoratively a patchwork, of everything the polygenists believed. It was the "culmination of separate-species and separate-homelands literature" and contained "taunting aplenty" to stir up the likes of Bachman and many others.[7] The work consisted of two major sections based on the specialties of the principal authors. Nott took the sections with scientific content and left the archaeology and biblical commentary to Gliddon. Agassiz' contribution was sufficiently late to prevent its assimilation into the main body of the work and so was included as a separate sketch. This caused production difficulties and inconsistent pagination, to the consternation of succeeding generations of librarians and historians.

Nott was aware that Gliddon's obsession with the clergy was likely to cause a problem, although he had no objection to the prospect of controversy. Writing to Squier, he acknowledged that Gliddon was ready for a fight, as he had not been directly involved with the ongoing debate for some time. Nott's intention was supposedly to give the current position on their scientific research and to ignore whatever barbs the opposition threw. The synergy of Nott, whose racial theories had extended into the political arena with an address to the Southern Rights Association in 1850, and Gliddon, whose grudge against the clergy was well known and well documented, was likely from the outset to elevate the controversy to new levels.[8] The partnership between an archetypal Southern

[7] Ibid., 263.

[8] Josiah C. Nott, *An Essay on the Natural History of Mankind, Viewed in Connection with Negro Slavery: Delivered to the Southern Rights Association, 14th December 1850* (Mobile: 1851). Horsman in *Josiah Nott of Mobile* says that this was a meeting held to discuss the Compromise of 1850 and the admission of California to the Union as a free state (123). The best description of Gliddon can be found in Stanton, 45-53.

racist who proclaimed no religious belief and a man with a gift for self-publicity and an obsession with offending and attacking the clergy was never likely to produce a work of weak opinion. The fact that Nott perceived himself as the "moderating influence" of the two made it clear that "clerical hackles would rise to new heights."[9]

The book shows very stark differences in style between the various authors' sections. Nott's contribution was a restatement of everything he had been saying in the last ten years. There was little new save the introduction, which even then said little of any significance. Nott repeated his criticism of Prichard and claimed that practitioners of the Christian religion vilified him and his like. He offered the stirring cry that the authors were "nailing the broad banner of science to the mast" and that "science must again, and finally triumph" in the "last grand battle between science and dogmatism."[10]

Patterson's "hagiographic" essay on Morton verges on the mawkish, quoting youthful poems and personal reminiscence.[11] In general, the writing reflects the style of many mid-Victorian eulogistic memoirs of departed and esteemed colleagues. Interestingly though, Dr. Patterson toed a polygenist party line and included several obligatory digs at John Bachman. For example, Patterson commented that Bachman's *Doctrine of the Unity of the Human Race* was "without the pale" in the context of the debate then underway. He further claimed that it, and several books like it, were worthy of nothing more than "expressive silence!" because of their "ignorance of the very first facts of the case." He supported Morton's claim to have been active for many years in

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[9] Horsman, *Josiah Nott of Mobile,* 175.

[10] Nott and Gliddon, *Types of Mankind,* xii-xiv, 49-60.

[11] Stephens, 196.

research on Natural History, but unsurprisingly he makes no mention of Bachman's longer experience in the same field.[12]

Agassiz' paper "Natural Provinces of the Animal World and their Relations to the Different Types of Man" was also an exercise in recycling. By his own admission in his introductory letter, he wrote that much of what followed in French in 1845. This was therefore the text of the original "*Notice sur la Géographie des Animaux*" from the *Revue Suisse,* which was itself recycled into "The Geographical Distribution of Animals" in the *Christian Examiner* five years later.

Agassiz considered that the most difficult area of study for any naturalist was the study of the human races and that science needed a standard with which to compare the "diversities observed in the different nations of the world." Among the obligatory questions on hybridization, Agassiz proposed that there were two alternatives in considering the origin of humanity. Either "mankind originated from a common stock" or "we must acknowledge that the diversity among animals is in fact determined by the will of the Creator…whence it follows that what are called human races…are distinct primordial forms of the type of man."[13] Nott and Gliddon's reaction to Agassiz' numinous ponderings have not survived.

Nott's own contribution was, as previously indicated, a restatement of his earlier material. Ephraim Squier had provided him with some of the material on American

[12] Henry S. Patterson, "Memoir of the Life and Scientific Labors of Samuel George Morton," in *Types of Mankind*, eds. J.C. Nott and G.R Gliddon (Philadelphia: Lippincott and Grambo, 1854): xlvi.

[13] Louis Agassiz, "Sketch of the Natural provinces of the animal world and their relation to the different types of Man," in *Types of Mankind*, eds. J.C. Nott and G.R Gliddon (Philadelphia: Lippincott and Grambo, 1854): lviii.

Indians, and Nott had already used it once in an article for the *Southern Quarterly Review*. Most of Part I of the book, written by Nott, took the form of a series of separate essays discussing the physical types of man, a physical history of the Jews, his AAAS paper from Charleston in 1850 pressed into service yet again, and an excerpt from Morton's unfinished work that Nott edited into a presentable form. The overall tone and theme of Nott's contribution intended to prove that the gaps between the disparate races were "broad and unbridgeable."[14] Nott's conclusion was that there was a Genus *Homo* "embracing many primordial Types, or Species"[15] The numerous woodcut illustrations Gliddon's wife produced meant that the casual reader was not obliged to read the text to see where the book was going. European heads and skulls – the European example in this case being George Cuvier, had noble classical profiles, whereas deliberately distorted views of Negros and Hottentots sat next to pictures of Orang-Utans and Chimpanzees. The expressions on the apes' faces were noticeably docile and appealing whereas the Negros were surly, pipe smoking, and menacing.[16]

Nott's conclusion summarized the comparative anatomy of races and owed a considerable amount to Samuel Morton. The key difference between races was the relative sizes of their heads. Pure Anglo-Saxon Europeans had larger heads than white Americans, and all white races had larger heads than southern Europeans. To show that he could borrow from all the sources, Nott showed how Morton's races fitted neatly into the zoological provinces proposed by Agassiz. Each race was the result of an individual

[14] Horsman, *Josiah Nott of Mobile*, 183.

[15] Josiah Nott and George Gliddon, *Types of Mankind*, 465, quoted in Horsman, *Josiah Nott of Mobile*, 197.

[16] Nott and Gliddon, 458.

act of creation that was specific for its own province and had remained permanent and immutable since their inception. The different races were unable to mate and reproduce successfully because any offspring would be a hybrid and not viable in the long term. With the end of Part I of *Types of Mankind*, Nott gave up his share of the "joint responsibilities of the authors." Nott's scientific work had been done, and he declared that it remained to Gliddon to "show what light has been thrown by oriental researches upon those parts of Scripture" that had a bearing on the question of Humanity's origin.[17]

What the reading public actually got from Gliddon was a pompously didactic, impenetrable, and opaque work. Parts II and III consisted of a barely comprehensible mêlée of facts from the emerging study of ancient Egypt, intended to cast further doubt on the biblical chronology and the accuracy of the text itself. Gliddon attacked the tenth chapter of Genesis in enormous detail, subjecting his readers to an excruciating analysis of Hebrew nomenclature.[18] He dismissed the whole of the Authorized Version of the Bible as inaccurate because generations of mistranslations had taken the text too far from the original language. Gliddon treated Genesis and the Old Testament as historical texts without any religious significance. He protested that the insistence of the Protestant church to "worship" King James's translation to the point that the church-going population revered it as a "fetiche" only worsened the situation.[19] Gliddon offered pages of quibbles over translations that in some cases were nothing more than speculative.

[17] Ibid., 465.

[18] Stanton, 162.

[19] Nott and Gliddon. 592.

Referring to a passage from 1 Kings 17, he suggested that Elijah was not fed by crows, as the text suggested, but by Arabs, because that was the more plausible translation.[20]

Very little of *Types of Mankind* argued constructively. It was an exercise in the ridicule of religion and the polygenists' opponents. Despite all this, the book was not only a bestseller but also represented the results of core research in American science in its time. It was not a fringe work written by two individuals of no account, despite how we may regard them today.

Reaction to the book was predictable. The *New York Herald* published a pleasing review from Nott and Gliddon's viewpoint, written by Ephraim Squier. However, it seems quite likely that Gliddon actually wrote the copy that Squier submitted. Gliddon had suggested that Squier should use his influence to get a review posted in the *New York Herald* or *Tribune*. When the *Herald* agreed to accept a review, Squier asked Gliddon to provide the copy and then submitted the review anonymously.

There is no record of the public's reaction to *Types of Mankind*, although it is possible to deduce a few facts from the available evidence. First, subscribers to *Types of Mankind* flocked from both sides of the sectional divide in the United States. The book was a bestseller before it had finished coming off the press in Philadelphia; it sold more than three and a half thousand copies in its first four months of publication. Second, the Secretaries of State for the Treasury, Navy Department, and State Departments each subscribed for a personal and departmental copy. This indicates just how seriously Washington regarded Nott and Gliddon. Third, in 1854 as the book appeared, the issue of race in the United States was becoming increasingly contentious, and the Kansas-

[20] Ibid.,, 588.

Nebraska Act and the founding of the Republican Party put slavery firmly at the top of the national political agenda. Scientific proof of the inequality of races would have been welcome to the slaveholders of the South. Unlike *Crania Americana*, *Types of Mankind* addressed an issue that was uppermost in the country's consciousness, and continued sales indicated that its message was exactly what many Americans wanted to hear.

The reaction of the Church was unsurprisingly thunderous. The *Presbyterian Magazine* warned subscribers that a cunning device, which would aid a new effort to overthrow the foundations of revealed religion, had deceived them. The book's title should not be *Types of Mankind*, but *Types of Infidelity*. When *Putnam's Monthly* took issue merely with Gliddon's flippant and dogmatic tone in dealing with Scripture, the *Presbyterian Magazine* shot back that *Putnam's* was a sensationalist publication obsessed with circulation figures and little else.[21]

In the political arena, Frederick Douglass gave considerable attention to *Types of Mankind*, roundly condemning it and *Crania Americana* at his commencement address to the Western Reserve College in July 1854. Douglass found it strange that "there should arise a phalanx of learned men — speaking in the name of *science* — to forbid the magnificent reunion of mankind in one brotherhood"[22] [Douglass' emphasis]. He specifically alluded to the book's influence in social and political life when he said that

> The debates in Congress on the Nebraska Bill during the past winter will show how slaveholders have availed themselves of this doctrine in support of

[21] Stanton, 165-6.

[22] Frederick Douglass, *The Claims of the Negro, Ethnologically Considered: An Address Before the Literary Societies of Western Reserve College, at Commencement, July 12, 1854* (Rochester, NY: Press of Lee, Mann & Co, 1854), 10.

> slaveholding. There is no doubt that Messrs. Nott, Gliddon, Morton, Smith and Agassiz were duly consulted by our slavery propagating statesmen.[23]

In his concluding comments, Douglas said that of all the efforts "to disprove the unity of the human family, and to brand the Negro with natural inferiority, the most compendious and barefaced is the book, entitled '*Types of Mankind*,' by Nott and Gliddon." He summarized his opinion of the book's value by saying "One would be well employed, in a series of Lectures, directed to an exposure of the unsoundness, if not the wickedness of this work."[24] Douglass concluded that he believed firmly in the unity of the human species and that while he did not feel at liberty to point out the vocation of the scholar at his first commencement address, he encouraged the assembled scholars to think. "Whatsoever things are true, whatsoever things are honest, whatsoever things are just, whatsoever things are pure, whatsoever things are lovely, whatsoever things are of good report, if there be any virtue, and if there be any praise, think on these things." His clear implication was that the racist beliefs of the American School and the theory of polygenism were neither pure, lovely, nor containing any virtue. [25]

The most significant scientific objection to *Types of Mankind* came from the pen of John Bachman, who wrote a lengthy review for the September 1854 issue of the *Charleston Medical Journal and Review*. Using the same literary style as he had with Morton, his review continued with further installments in the journal itself and in

[23] Ibid., 16.

[24] Ibid., 28.

[25] Ibid., 37.

pamphlet form during the following year.[26] The first part of Bachman's review was highly critical of the minor contributors and content of *Types of Mankind*. Bachman noticed that Agassiz originally wrote his contribution nine years previously. Usher's paleontology, especially references to the 57,000-year-old human fossil that had been recovered from the Mississippi mudflats "might well have been omitted for their own credit sake as well as that of Morton." Patterson's memoir of Morton contained a dismissal of Bachman as a clergyman with no scientific background at all, and this offended Bachman, who no doubt saw the hand of Nott and Gliddon in Patterson's work. Sadly, Patterson had died before the publication of *Types of Mankind* and could offer no response. Bachman retorted to the collected slights of Nott, Gliddon, and Patterson by refusing to acknowledge Nott's qualifications as a naturalist and implying that whenever Nott left "the leading strings of Morton and Agassiz," he became embroiled in difficulty. He dismissed Gliddon's contribution almost entirely: "We will leave Mr. Gliddon in his 271 pages, (90 of which are consumed by enlightening the benighted clergy on the true reading of the 10th Chapter of Genesis,) to be dealt with by the Theologians."[27]

Although he condemned much of the work as bad science, Bachman refrained from engaging Nott directly on matters of science, and Bachman and Nott's shared sectional affiliations may explain why. Despite his origins in New York, Bachman

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[26] John Bachman, "Types of Mankind," *Charleston Medical Journal and Review* 9, no. 5 (September 1854): 627-59; *Continuation of the Review of "Nott and Gliddon's Types of Mankind"* (Charleston: James, Williams and Gitsinger, 1855); "An examination of the Characteristics of Genera and Species as Applicable to the Doctrine of the Unity of the Human Race," *Charleston Medical Journal and Review* 10, no.2 (March 1855): 201-22; "An Examination of Professor Agassiz's sketch of the Natural Provinces of the Animal World, And their Relations to the Different Types of Man, with a Tableau Accompanying the Sketch," *Charleston Medical Journal and Review* 10, no.4 (July 1855): 482-534.

[27] Bachman, "Types of Mankind": 627-59.

considered South Carolina his home and was aware that the Southern way of life was under threat. Bachman acknowledged that Nott's research strove to demonstrate that the Negro "was of a different species and not of the same blood … [and this] was acceptable to the politicians of the South, hence he had gained a welcome admittance into our Southern journals."[28] Bachman revealed his own position on slavery when he said that in his view that the Negro "is thrown on our protection. That our defense of slavery is contained in the Holy Scriptures. That the scriptures teach the rights and duties of masters, to rule their servants with justice and kindness, and enjoin the obedience of servants."[29]

His views on the effect of the origin debate on Southern society are enlightening. According to Bachman, "if every word of this were true, and the Negro was proved to be of a different species, it would not release us from our obligations as men and Christians." In an even more fascinating personal insight he continued: "if they could even succeed in proving the Negro of a different species, the South would gain nothing, whilst we would have abandoned all the strong arguments that are derived from the scriptures in the right of holding this species of property."[30] In this passage, Bachman summarized what would become one of the South's principal objections for resisting the theories of the American School of ethnology. The scientific proof of the inferiority of the Negro was simply not required. Slaveholders in the South could turn to the Bible for a justification for keeping this "species of property" without resorting to the "infidel"

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[28] John Bachman, A *Notice of the 'Types of Mankind,' With an Examination of the Charges Contained in the Biography of Dr. Morton* (Charleston: James, Williams and Gitsinger, 1854), 23.

[29] Ibid., 33.

[30] Ibid.

ways of Nott, Gliddon, and Morton. Bachman's review continued at some length to engage Agassiz and his "sketch" and to castigate its bad science. It was the longest and most devastating assault on the concept of natural zoological provinces in print at the time. When Charles Darwin obtained a copy of the fourth edition of *Types of Mankind*, he made a marginal note that said *O proh pudor Agassiz!* (Oh, for shame, Agassiz!).

Nott replied to Bachman in the *Charleston Medical Journal and Review.* His letter affected a weary and unwilling tone. He was writing not because he wanted to, but because Gliddon had written to inform him that Bachman was insulting Morton's and Patterson's memory.[31]

This conflict was not destined to be like the scientific exchange of Bachman and Morton from previous years. Nott described Bachman's *Doctrine of Unity* as "strongly tinctured with the principles of bigotry and fanaticism."[32] The "Am. Ass" insult was 'undoubtedly' a typographer's error. In Horsman's opinion, Nott "plainly lied" about this.[33] He claimed that the entire feud with the American School was of Bachman's doing and maintained that he had always been determined to stick to scientific principles and not to insult anyone. In spite of this, Nott's summary of Bachman's objections to his writing as whole was that "I had published scientific opinions, which conflict with his sectarian dogmas."[34] Clearly, John Bachman was specifically exempt from Nott's determination not to insult anyone. While discussing insults, Nott made a surprisingly

[31] "Communication from Dr. Nott" – *Charleston Medical Journal and Review* 9, (1854): 862-64. Dr. Patterson had died just as *Types of Mankind* was being set, thus he never saw his own contribution to the work.

[32] Ibid., 862.

[33] Horsman

[34] Ibid., 864.

disingenuous comment that struck at the nature of his relationship with his co-author. He implied that if anyone was likely to cause insult, it was Gliddon, who "thought proper to pursue a different course" and expressed his distaste for the church rather than stick to the historical facts. Nott excused his partner by saying that Gliddon had suffered "insults for years, from sectarians." but the comment implies that Nott's association with Gliddon was never completely harmonious.

Nott's attack continued in further editions of the *Charleston Medical Journal and Review.* In a subsequent article he defended Louis Agassiz, who had no desire to answer Bachman's scathing comments that had appeared in the previous issues.[35] Nott's review was different in that it tried to restrict itself to scientific matters rather than relying on personal attacks. Sometime later, he arranged to send the *Charleston Medical Journal and Review* a letter from Luke Burke, the English ethnologist. The letter praised Nott, which may have been a sufficient reason for Nott to forward it for publication in addition to any racial content; however, the letter also condemned "Poor" Dr. Bachman and implied that Agassiz' sophistry was too much for him. Nott made no comment that Luke Burke's *Ethnological Journal* had recently failed, or that the Ethnological Society of London had condemned *Types of Mankind* as lacking in any new or scholarly content.[36]

Buoyed by his success, and still fully engaged in promoting the concept of white supremacy, Nott commissioned a translation of Comte Joseph Arthur de Gobineau's *Essai sur l'inégalité des races humaines,* which proposed that there were three races, of which the white Aryan race was superior. Nott's translation was in fact highly selective.

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[35] Josiah C. Nott, "Reply to Dr. Bachman's Review of Agassiz's Natural Provinces," *Charleston Medical Journal and Review* 10, no. 6 (July 1856): 767.

[36] Stephens, 211.

Gobineau had discussed the 'scandal' of race mixing and the degenerate condition of the United States. Since Nott had denied the biological basis of race mixing and did not consider the entire United States to be degenerate, the translation completely omitted these points. Nott took the opportunity to add an appendix that provided him with the opportunity to attack Bachman once again.[37] The translation, when it appeared, was so highly eclectic that Gobineau himself complained about his treatment at the hands of the Americans.[38]

Gliddon proposed to Nott that they should capitalize on their success and produce a sequel to *Types of Mankind*. The two differed over the new work's subject matter, and both tried to convince other scientists including Agassiz, Ephraim Squier, and the paleontologist Joseph Leidy to participate. All three declined. Nott never saw Gliddon's contribution to the new work until he received the proofs, and he then wrote to Leidy to say that he had been "so provoked by [its] vulgar theology" that he had read about ten pages and given up the effort.[39] When *Indigenous Races of the Earth* appeared in 1857, Gliddon had contributed most of the content, and the book suffered from the same unintelligible style as Parts II and III of *Types of Mankind*. Leidy and Agassiz appeared on the title page, for no other reason than each had written an encouraging letter to Gliddon. As a work, it failed to live up to its predecessor. It was an "uneasy addenda" to

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[37] Arthur Gobineau , and H. Hotz, *The Moral and Intellectual Diversity of Races, with Particular Reference to Their Respective Influence in the Civil and Political History of Mankind. [Translated from Vol. 1 of the "Essai Sur L'Inégalité Des Races Humaines."] ... With an Analytical Introduction and Copious Historical Notes by H. Hotz. To Which Is Added an Appendix Containing a Summary of the Latest Scientific Facts Bearing Upon the Question of Unity or Plurality of Species, by J. C. Nott* (Philadelphia, Lippincott. 1856).

[38] Horsman, *Josiah Nott of Mobile*, 205-6.

[39] Nott to Leidy, 30 March 1857, quoted in Horsman, *Josiah Nott of Mobile*, 216.

the written record of the philosophy of the American School, and was the last time that Nott and Gliddon cooperated, although it is apparent that Nott's involvement with the book was scant at best. The only true work of collaboration between the two men was *Types of Mankind.*[40] Nott wrote to Squier that the book's title should have been "*Indignant Races.*" He said, "They had the right to be indignant, since Gliddon has surpassed himself in folly and confusion."[41] Gliddon was to live for only a short time longer. At Nott's request, Squier found him a job with the Honduras Interoceanic Railway Company, one of the many railway schemes seeking to speed the shipment of freight between ports on the Atlantic and Pacific Oceans before the opening of the Panama Canal. While suffering from malaria or some other jungle affliction, he accidentally overdosed himself with morphine and died in November 1857.[42]

While *Types of Mankind* may have failed to impart any new scholarship or research and while members of the scientific community may have condemned it, the work did achieve one lasting success. It fixed the issue of "race" in the minds of everyday Americans. The concept of "race" had been isolated, identified, and finally popularized. The mere fact that we consider race to be an issue at all in the twenty-first century is due in no small measure to Nott and Gliddon's efforts in the nineteenth.

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[40] Josiah Clark Nott, George R. Gliddon, and L.-F.-Alfred Maury*, Indigenous Races of the Earth, or, New Chapters of Ethnological Inquiry: Including Monographs on Special Departments of Philology, Icongraphy, Cranioscopy, Palaeontology, Pathology, Archaeology, Comparative Geography, and Natural History* (Philadelphia: J.B. Lippincott, 1857); Horsman, *Josiah Nott of Mobile,* 216.

[41] Nott to Squier, 26 April 1857, quoted in Horsman, *Josiah Nott of Mobile*, 220.

[42] Stanton, 180.

If our collective memory of John Bachman identifies him as a clergyman first and a scientist second, this is also the result of the efforts of the more fiery members of the American School to discredit him. Bachman himself, having been Pastor of St John's Church in Charleston for sixty years, could conceivably have agreed with the assessment. It was certainly the most bizarre irony that when the sectional differences in the United States boiled over into the American Civil War, the old intellectual enemies, Nott and Bachman, found themselves on the same side, defending the "peculiar institution" for reasons that were almost, but not completely, similar.

CHAPTER VIII

DARWIN, EVOLUTIONARY THEORY, AND THE AMERICAN SCHOOL

While Charles Darwin was painstakingly condensing his notes into an "abstract" which would be called *On The Origin of Species*, the polygenists were at the height of their fame. The situation in Kansas was deteriorating rapidly following the sacking of Lawrence and the Battle of Osawatomie, but Nott and Gliddon's star was at its zenith. In 1857, Gliddon coined the term "Polygenist" in *Indigenous Races of the Earth* to describe all those who supported the plural origin of humanity. The influence of the new scientific thought on society was visible in the Lincoln-Douglas debates for the Illinois senate that took place in the same year. Douglas talked of a "great natural law that affected the amalgamation of the superior and inferior races," using language that was almost straight from *Types of Mankind.* He showed that he was familiar with the works of the polygenist writers, and the way his comments resonated with the Illinois electorate indicates how deeply the racial theories of the American School had penetrated the intellectual and political life of the country.[1] As if to underline a prevalent and deep-seated racism, the US Supreme Court's decision in *Dred Scott v Sandford* was another defining point of contemporary socio-political opinion, ruling that Negroes were nothing more than property and had no rights as citizens. In the South, both Josiah Nott and John Bachman were conscious of their roles in the forthcoming sectional conflict, and both indicated that they were perfectly prepared to play whatever part they could. Darwin himself had a tenuous connection with events unfolding across the Atlantic. One of his old acquaintances from London in the 1830s was Charles Sumner, whose verbal chastisement

[1] Lander, 123.

of the gentlemen who took the "harlot slavery" as a mistress resulted in his infamous assault on the floor of the Senate.[2]

The debate over the *Origin of Species* began in the United States against the deepening crises leading to the Civil War. John Brown's execution took place eight days after the first edition appeared in public. The political considerations of the time overshadowed any immediate reaction to Darwin's theories from the American scientific community. Some readers, nevertheless, scoured its pages for references to the origin of humanity, which were largely missing. Darwin had not reached a conclusion himself, although he had the germ of an idea.[3]

It was likely from the outset that Darwin's most trenchant opponent from the American scientific community would be Louis Agassiz. Darwin's colleague and mentor Charles Lyell maintained a relationship with Agassiz and was sometimes the "go-between" in the cool relationship between the two. Lyell had also previously met Josiah Nott and was increasingly troubled, both by the theories of the American School and by Agassiz' intransigence on any scientific argument that countered his own theories.[4] The abolitionist fervor that was sweeping the United Kingdom also influenced Lyell's disturbance. Prominent among these disturbances was the literary and dramatic clarion-call that was *Uncle Tom's Cabin.* On his most recent Atlantic crossing, Lyell had travelled to the United States with Harriet Beecher Stowe's husband and had then seen a stage performance of *Uncle Tom's Cabin* in Boston. Shortly after this, he had met with

[2] Desmond and Moore, 267.

[3] Ibid., 318.

[4] Ibid., 267.

Agassiz at Harvard. Lyell wrote "I must confess that Agassiz drove me far over into Darwin's camp… for when he attributed the original of every race of man to an independent starting point…I could not help thinking Lamarck must be right."[5] Lyell's own work in Geology made him increasingly suspicious of Agassiz' apparent self-contradictions and more receptive to Darwin's proposals. If man were introduced into the geological timescale, then the races of man "were equivalent to the varieties of the Dog." In Lyell's words, "The variety of Creation" was actually "the formation of races miscalled species"[6]

When the first edition was nearly ready for distribution, Darwin's publisher had sent a hundred copies of *On the Origin of Species* to various scientific and cultural notables around the world. One of the recipients was, naturally, Louis Agassiz. Since the publication of his *Contributions to the Natural History of the United States,* Agassiz was unwilling to accept any criticism of his own theories or to accept alternative explanations. The reverence and gratitude accorded him by the AAAS at Charleston some years previously, and the ensuing adulation he received as America's most famous naturalist, had no doubt confirmed his legendary status in his own mind.

The Great Chain of Being may have faded into obscurity, but monogenists and polygenists alike maintained one of its key tenets. They considered humanity, and specifically the Caucasian race, to be almost the apotheosis of creation, the high point above which was only God. Darwin's answer to the species question proposed that humans were just one more example of an infinite variety of living organisms, all of

[5] Desmond and Moore, 270; Lurie, *Louis Agassiz, A Life in Science*, 265.

[6] Desmond and Moore, 270.

which came into being by the same processes that were at work even now. There was no great cataclysm as preferred by Agassiz, and neither was there a wondrous unveiling of a pre-ordained sequence of unchanging nature. *On the Origin of Species* avoided using the term "evolution" until the final paragraph, partly because contemporary usage defined exactly the pre-ordained revelation of an already perfect and unchanging nature that Darwin rejected.[7]

While Darwin descended from a strongly abolitionist family, historians have only realized recently the strength of those abolitionist beliefs and the extent to which they motivated him to write *On the Origin of Species.* His journals from the *Beagle* recorded his horror at the treatment of slaves in South America and noted his confrontations with Captain FitzRoy on the subject of slavery.[8] Historians also postulate that Darwin's principal motivation in publishing his theory was to oppose the conservatively religious accounts of the creation that both sides of the monogenist / polygenist debate used to different purposes. More recently, other historians have proposed that Darwin's motivation was to oppose the bad science of both camps by moving humanity away from the center of creation. This was an adept manœuvre, since it moved the debate away from the familiar terrain to which the monogenists and polygenists were accustomed. "Darwin chose to avoid the question of human origins, because to do so would have been

[7] B. Ricardo Brown, "Darwin, Slavery and Science," in *The Civil War and Reconstruction Era: 1850s-1877* in the series *Conflicts in American History*, eds. Brian L. Johnson and Edward J. Blum (Columbia SC, Manly, 2009), 2.

[8] Desmond and Moore, 76.

to play on his opponents' board and make his work a part of the monogenic-polygenic debate." [9]

Darwin may not have intended to recruit followers at first, but a transatlantic following became useful to him, as his theories attracted a number of American scientists who were increasingly disgruntled with Agassiz and his special creation. The most notable among these followers were James Dwight Dana of Yale and Asa Gray of Harvard. Other American notables continued to pursue their own concerns. As South Carolina talked of secession, theological issues in Charleston dogged Bachman in addition to sectional and scientific disputes. Agassiz meanwhile steadfastly promoted his theory of separate zones of creation and separate human species, and he devoted the remaining portions of his time to building the Museum of Comparative Zoology at Harvard.[10] Josiah Nott took steps to fill a significant gap in Southern learning and set out to found a medical college in Mobile.[11]

Gray fired the first intellectual salvo in the debate that Darwin's book inspired. Lowell sided with Agassiz in 1860 and denied that Darwin's theories were proper science. In the same year, Gray reviewed Darwin's book in the *American Journal of Science and Arts,* saying, "A spirited conflict among opinions of every grade must ensue, which — to borrow an illustration from the doctrine of the book before us — may be likened to the conflict in Nature among races in the struggle for life, which Mr. Darwin

[9] Brown, "Darwin, Slavery and Science," 5.

[10] Lurie, *Louis Agassiz, A Life in Science*, 260.

[11] Horsman, *Josiah Nott of Mobile*, 235-38.

describes."[12] Gray certainly got his wish, in that the conflict that followed was undeniably spirited and involved opinions of every grade. The controversy that erupted over Darwinism started a debate that surpassed almost any seen in polemical literature until then, and the dispute shows little sign of abating over a hundred and fifty years later. Historians refer to the Darwinian debate from 1859 until the publication of the *Descent of Man* in 1871 as the probationary period or the period of absolute rejection.

The religious journals of all denominations united in their clamor to denounce Darwinism as an insult to God and Christian beliefs. The *Princeton Review*, *Methodist Quarterly*, the *New Englander*, and the *Christian Examiner*, united for once with the *Catholic World*: all rounded on the science and the philosophy, preferring immutability and creation to Darwin's slow and steady change.[13] Gray's defense did not mention that Darwin omitted any reference to creation in a theological sense or that Darwin inferred a higher intelligence somewhere in the background. Yet Gray dismissed Agassiz' criticisms, being surprised that a man of science should reject Darwin's theory because it did not allow the possibility of divine intervention. Agassiz rejected the suggestion that any species that had not changed must have previously achieved its optimal form by transmutation, and he used this lack of change as proof of special creation. In July 1860, Agassiz wrote to the *American Journal of Science* saying that Darwin's arguments had not made "the slightest impression on my mind."[14] Agassiz remained a steadfast,

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[12] Asa Gray, "The Origin of Species by Natural Selection," *American Journal of Science And Arts* (March 1860), quoted in *Darwiniana* (New York, Appleton, 1876): 9.

[13] Bert James Loewenberg, "The Controversy over Evolution in New England, 1859-1873," *The New England Quarterly* 8, no.2 (June 1935): 233.

[14] Lurie, *Louis Agassiz: A Life in Science,* 292-297.

unyielding opponent of Darwinism. His scientific research continued to assert that he had been correct in the past, was correct now, and would continue to be correct in the future. The other remaining member of the American School to express an opinion, Josiah Nott, read the book in August 1860 and said in a letter to Ephraim Squier, "The man is clearly crazy, but it is a capital dig into the parsons – it stirs up Creation"[15]

Darwin had supposedly "fired a shot heard round the theological world."[16] His description of an extremely slow and gradual process of biological change rendered the theories of cataclysm and miraculous creation, whether of one race or many, redundant with a single blow. There was no longer a need to debate the original state and location of man, nor was there a need to consider how humanity had developed to its present state in six thousand years.[17]

While there is speculation that evolutionary theory had been floating in the scientific consciousness for some considerable time before Darwin and, coincidentally, Alfred Russell Wallace captured them and set them on paper, there is no evidence that this was the case. The shot was even more startling because no one had considered the possibility of a different kind of gun. The majority of texts that chart the rise and fall of the American School of ethnology accept Loewenberg's "shot" analogy as the harbinger of doom for the general and special creationists of monogenism and polygenism respectively. Those who do not accept Darwin as the lone gunman in the elimination of special creationism point to the American Civil War as the second accomplice. What

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[15] Nott to Squier, 22 August 1860, quoted in Horsman, *Josiah Nott of Mobile*, 249.

[16] Bert James Loewenberg, "Darwinism Comes to America, 1859-1900," *The Mississippi Valley Historical Review* 28, no. 3 (December 1941): 339-68.

[17] C. Loring Brace, *"Race" Is a Four-Letter Word,* 124.

Darwin did in science, the Union Army and Thirteenth Amendment did in society and Law. There was a third accomplice – the passage of time itself, which had not progressed sufficiently to have any effect on the story.

Writing from a ruined and occupied Mobile and following a long and arduous career as a Surgeon in the Confederate Army, Nott wrote to Squier complaining that the free black population would soon die outside slavery and that the United States had made a grave mistake. The inferior blacks and Indians would soon die out in their newly achieved freedom.[18] Nott protested to General Howard of the Freedmen's Bureau that its work was in vain. Nott wanted the Bureau and Northern troops to withdraw and allow the South to set about its own salvation. Continuing this theme in an article for the *New Orleans Medical and Surgical Journal,* Nott acknowledged the "developmental" theories of scientists such as Darwin and their huge timespans, and he pointed out that General Howard did not have the luxury of millions of years in which to resolve the issues of the Negro population in Darwinian terms.[19]

Agassiz had spent the Civil War years in the North, lecturing, writing, and assisting in the formation of the National Academy of Science. All of his lectures, as might be expected, extensively covered his own theories of special creationism. In his own view, the North was fighting for the "higher interests of Humanity" as well as power. Agassiz' vision of his own self-worth had begun to operate on a grandiose scale, and his desire to wield what he called "a crushing blow" against Darwin resulted in a proposal to use the vast resources of the Harvard Museum to amass a collection of

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[18] Horsman, *Josiah Nott of Mobile*, 295.

[19] Josiah Clark Nott, *Instincts of Races* (New Orleans: L. Graham, 1866); Horsman, *Josiah Nott of Mobile,* 301.

specimens of all the world's fishes in order to disprove evolutionary theory.[20] The accumulation did more to stretch the finances of the Museum than to make the ultimate response to evolutionary theory. This hubris had its own outcome in 1864, when the National Academy of Sciences met in New Haven and a new member was elected against Agassiz' wishes. Suspecting that there was an alliance of scientists against him, Agassiz confronted James Dwight Dana and ultimately demanded to have his own name removed from the editorship of the *American Journal of Science*.[21]

Agassiz' responded to Darwin's evolutionary theory following a trip to Brazil in the later 1860s. He said that glacial action had wiped out all vestiges of life on earth, which God created afresh. No genetic or other relationship was possible between the flora and fauna that had gone before the glaciation and those that had come after. This theory flew in the face of all hitherto accepted scientific research, including that of Alfred Russell Wallace, who had visited the same area previously and found no sign of glacial activity.

When Darwin published *The Descent of Man* in 1871, the book outraged the religious community more than they had been after the publication of *On the Origin of Species.* The theory of transmutation was bad enough, but to extend that theory to humanity was more than many figures in the church could bear. Once again, a broad coalition of denominations united in its condemnation of the theory. The *Catholic World* summed up the clergy's opposition to Darwinism by saying that Darwin "took for granted that mankind wishes to decide whether man is the modified descendant of some

[20] Lurie, *Louis Agassiz: A Life in Science*, 336.

[21] Ibid., 342.

pre-exiting form… he has no right to assume that there may be the least reasonable doubt regarding the origin of man."[22] Over the following years, "shifting values and scholarly approval bent the curve in the direction of general assent." Values shifted to such an extent that a few years later, Henry Ward Beecher would preach the doctrine of evolution from a pulpit in Plymouth, NY. Later still, the upper echelons of American society would willingly embrace Herbert Spencer's adaptation of Darwinian models in sociological contexts, giving the world what became known as "Social Darwinism" and once again putting the United States firmly in the forefront of the application of social theory upon an innocent population.[23]

The *Descent of Man* sought actively to counter the theories of the American School of ethnology. An entire chapter was set aside to discuss the races of man and the theories of the monogenists and polygenists. Darwin opened his chapter by stating that it was not his intention to "describe the several so-called races of men; but I am about to enquire what is the value of differences between them under a classificatory point of view."[24] He related how it was perfectly possible for a newly arrived European to derive the impression that all the native races of India seemed identical, although later it became apparent that there were visible differences. Thus, the naturalist might be tempted to see many differences based on physical appearance. However if the same naturalist "were to inquire whether the forms of man keep distinct like ordinary species" he would discover

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[22] "Descent of Man," *Catholic World* 17 (May 1873): 154; 26, (December 1877): 498, quoted in Loewenberg, "The Controversy over Evolution in New England, 1859-1873." *The New England Quarterly* 8, no.2 (June 1935): 256.

[23] Loewenberg, "Darwinism Comes to America, 1859-1900," *The Mississippi Valley Historical Review* 28, no. 3 (December 1941): 360.

[24] Darwin, *The Descent of Man*, (London: J. Murray, 1871), 222.

that this was not the case. The crossbreeding that Josiah Nott and Samuel Morton regarded as a short-term success was anything but short-term, judging by an "immense mongrel population" in South America, the Pacific and Africa. Darwin said, "The races of man are not sufficiently distinct to inhabit the same country without fusion, and the absence of fusion affords the usual and best test of specific distinctness."[25] Darwin also touched on the questionable concept of "race"; he was unable to reach a satisfactory answer when he said that if one "reflects on the weighty arguments … given for raising the races of men to the dignity of species, it seems the term sub-species might here be used with propriety. But from long habit the term "race" will perhaps always be employed."[26] Even at this time, the definition of "species" was still a matter of dispute, and Darwin acknowledged that loose terms like "race" would probably persist. It was unlikely that the general resemblance in body structure and mental capacity among human beings was the result of plural creation. He further theorized that unlike the species of monkeys that adopted unique and distinct habits, the various races of humanity had adopted very similar primitive weapons such the bow and arrow, not because they been passed down to various sub-species from some common progenitor. The behavior and use of tools had arisen in the same way because humanity was all of the same species with the same capacity to learn.[27] Darwin said that it was "a matter of indifference whether the so-called races of man are thus designated, or are ranked as species or sub-species… we may conclude that when the principle of evolution is generally accepted, as

[25] Ibid., 232.

[26] Ibid., 234.

[27] Ibid., 238.

it surely will be before long, the dispute between the monogenists and polygenists will die a silent and unobserved death."[28]

As fate would decree, the year of death was to be 1873, although it was by no means silent or unobserved. Unrepentant until the last, Agassiz found himself increasingly isolated as his colleagues adopted Darwin's theories. Agassiz was one of the last bastions of the old orthodoxy, and this steadfastness was due in no small part to his genuine belief in his own theories rather than any perverse refusal to admit the theories of a rival. As he approached the end of his life, he was still sufficiently motivated to write the first of a series of articles for the *Atlantic Monthly* in response to Darwinism and other so-called "mania."[29] The article acknowledged Darwin as a thinker of some originality. However, it protested that the Darwinians refused to acknowledge "the intervention of an intellectual power" and wondered if those who denied repeated acts of creation "[had] ever considered that no progress can be made in knowledge without repeated acts of thinking?"[30] The proposed series of articles ceased on his death, and thus Agassiz never published the complete refutation that he intended.

In his final years in New York, Josiah Nott apparently came to accept Darwinism and all its implications. A biographical sketch in the *American Journal of Obstetrics* said that Nott was "broad enough to accept all of Darwin's views and conclusions." Nott had written that if the "pre-historic period of men" had been as widely accepted a few years

[28] Ibid., 240.

[29] Loewenberg, "American Scientists and Darwinism," 691-2.

[30] Louis Agassiz, "Evolution and the Permanence of Type," *Atlantic Monthly* 33, no. 197 (January 1874): 92-101.

earlier as it was now, he might never have written *Types of Mankind*.[31] His ethnological writings were outmoded, and he dedicated his final years to the study of gynecology until his death in March 1873.

With the deaths of Nott and Agassiz, the last vocal members of the "American School" of ethnology departed from the scene. The remaining and largely silent member, Ephraim Squier, died in 1888 after a career as a newspaper editor and American diplomatic official with responsibilities in Central and South America. These posts gave him many opportunities to pursue his archaeological and ethnological interests, although his written output was never as outspoken as that of his associates.

Darwin's work started a debate, "which few literate people could evade." It divided American society as a whole, but in scientific circles, the division of opinion was secondary to the issue of intellectual tolerance that some members of the ecclesiastical community appeared to threaten from the pulpit.[32] Just as Josiah Nott had campaigned for the freedom of enquiry in the face of stern religious opposition, the Darwinists found themselves fighting the same battle as their erstwhile opponents. The religious community objected to the latest proposal of science for exactly the same reasons they had used when objecting to the plural origin theory; they argued that the scientists wanted to take God out of the formula. A hundred and thirty years later, as a new wave of religious fundamentalists seek to dismiss evolution as only a theory and ban the works of Darwin from schools in certain states, the reader may think that, in the words of Stephen

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[31] William M Polk, "Josiah C. Nott" – *American Journal of Obstetrics* 66 (1913): 957, quoted in Horsman, *Josiah Nott of Mobile*, 320; Stanton, 186.

[32] Loewenberg, "The Controversy over Evolution in New England, 1859-1873," *The New England Quarterly* 8, no.2 (June 1935): 256.

Jay Gould once again, that "the arguments, refurbished for the next round of social institutions, cycle endlessly."[33]

[33] Stephen Jay Gould, *The Mismeasure of Man* (New York, Norton, 1981), 30.

CHAPTER IX

CONCLUSION

The concept of race, as we know it today, is an American invention. Even though its exact origin is still a source of contention, it was undoubtedly refined and distilled in the attitudes of the antebellum years. Colonial America adopted the English model and in general argued that God had ordained a situation of servitude that applied to all of its society. Thus, it did not need race as a concept to justify indentured service. The situation changed when Africans and their descendants were included in a society in which they lacked rights "that others not only took for granted, but claimed as a matter of self-evident natural law." Thus, the slave society of the United States was unique in developing a systematic pro-slavery doctrine. Slavery did not need to be justified as long as it seemed natural. However, once there was a "radical affirmation of freedom" such as the self-evident truth that all men are created equal, then a Newtonian equal and opposite reaction required a radical affirmation of the exact opposite to account for the anomalous presence of a large population of others.[1] Barbara Fields said that once people cease to believe that God "endowed everyone with an inalienable natural right to liberty, then society starts bringing up the intellectual heavy artillery, to accomplish subordination and enslavement. The heavy artillery, in a word, of science."[2] The very fact that we continue to discuss race as if it was a matter of biological distinction and not an arbitrary concept is the lasting legacy of the history of the American School of ethnology and its activity

[1] Barbara J. Fields, RACE - The power of an illusion. edited transcript of a presentation given by Barbara J. Fields at a "School" for the Producers of RACE - March 2001 - http://www.pbs.org/race/000_About/002_04-background-02-02.htm (12 April 2014)

[2] Ibid.

between 1839 and 1873. The American School's attempt to classify and organize what its members perceived as the "types of mankind" was a watershed in social history not just in the United States, but also around the world. Henry Schoolcraft commented in 1854 that if this was "all that America is going to send back to Europe, after feasting on her rich stores of learning, science, philosophy and religion for three centuries" it would have been better if the aboriginal races had maintained their dark empires of pow wows and jugglers undisturbed."[3]

While it is true that America may not have had the monopoly on racial intolerance, it is still true that the concept of race and racism as we know it can trace its origins to the United States in the mid-nineteenth century. The role played by American science was crucial in the formation of a concept of race. Science in Victorian America was concerned with classification and taxonomy, both as a way to make a mark on contemporary society and to reassure society when so much of the world was changing with each new discovery and invention. However, scientific classification was not "the history of human variety. The history of scientific classifications of human variety [was] the history of how those schemes contributed to the scientific ideology of race."[4]

Our concepts of racial theory did not exist in a recognizable form before the nineteenth century. The thinkers of the Enlightenment, while acknowledging that there were different kinds of humans, merely recorded the fact of their "otherness" and placed them in the context of their place in the great scheme of nature. Lord Kames' solution to the problem of apparent physical difference was a dismissal of the problem in judicial

[3] Schoolcraft to Bachman, September 1854, quoted in Stanton, 192.

[4] Brown, *Until Darwin*, 149.

terms rather than an attempt at resolution. Samuel Stanhope Smith and Benjamin Rush did not attempt to create or impose a hierarchy on the varieties of humanity that they perceived.

The social experience of the United States was unique, as it was a country that saw an enforced co-existence of people from three distinct points of origin: Western Europe, West Africa, and America itself. These populations lived in conditions of inequality that hid any trace of their biological commonality. This concealment gave rise to a situation in which it was normal behavior to categorize human beings and place them within a social hierarchy.[5] In these circumstances it becomes more understandable that the first question American science posed for itself concerned the people who lived there and their marked differences. Samuel Morton was one of the first scientists to propose that there were measurable differences between the races and that these measurements could be recorded and arranged in a hierarchical structure to allow the easy classification of other specimens.

Not all of the members of the American School were overtly racist in their personal beliefs. Among the members of this loose group, only one, Josiah Nott, involved himself in the racial politics of the American South before and shortly after the American Civil War. Squier had a low opinion of Negros but allegedly hated slavery. Agassiz actively supported the North and was more concerned with gilding his own legend and assuring himself of his place in scientific pantheon than seeking to suppress one of the many "inferior" races he believed had been created, separately, around the world. Whatever Gliddon thought he was doing was lost in a characteristically polysyllabic outpouring, although Stanton records that his intention in publishing *Types*

[5] C. Loring Brace, *Race is a Four Letter Word,* 2-3, 269-270.

of Mankind was that it should be nothing more or less than a memorial to Samuel Morton.[6]

There has been some debate as to whether the American School provided a "Science for the South" and whether or not the South rejected the proffered assistance in formulating its policies. Stanton argues that the South rejected the theories of the American School because it was unwilling to pay its price. Adopting the school's scientific theories, abandoning the Bible, and identifying itself with a group of scientists whose unifying factor was their tangible anti-clericalism was simply too high. In this way, the South "rejected the only intellectual defense of slavery it could have taken up."[7] B. Ricardo Brown finds the anti-clericalism of the American School significant because in his opinion "Race does not begin in secularism but in opposition to religion."[8] There was an undeniable opposition to religion in the writings of the American School, even though many of them proposed, with varying degrees of sincerity, that polygenism consisted of several acts of divine creation.

On the matter of pure science, the American School never achieved clear, undisputed definitions of key terms like race, species, and variety. Definitions varied according to circumstances and the necessity to reply to one critic or another. Similarly, hybridity in humans, a concept that writers discussed extensively in the pages of journals like the *Charleston Medical Journal and Review*, did not benefit from a proper definition until the issue became defunct and Darwin's theories took the upper hand.

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[6] Stanton, 193.

[7] Ibid., 194.

[8] Brown, *Until Darwin*, 152.

It was Darwin's wish that the monogenist / polygenist dispute should die a silent and unobserved death. From the perspective of the 21st century, it is safe to say that he almost got his wish. The dispute may have faded into the mists of time, but the stain of racism will prove much more difficult to remove. If the racism that the American School helped to engender should perish and fade from the Earth, that death will be neither silent, nor unobserved.

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------. *The Diversity of Origin of the Human Races*: (from the *Christian Examiner* for July, 1850). Boston: 1850.

Agassiz' famous *Christian Examiner* article was published in booklet form to capture a wider reading audience outside the demographic reach of the *Christian Examiner*. The pamphlet summarizes the earlier article and adds Agassiz' comments adopting the pluralist / polygenist stance following Josiah Nott's paper at the third annual meeting American Association for the Advancement of Science in Charleston in March 1850.

------. "Sketch of the Natural provinces of the animal world and their relation to the different types of Man." In *Types of Mankind.* Edited by J.C. Nott and G.R Gliddon. Philadelphia: Lippincott and Grambo, 1854.

Agassiz contribution to Types of Mankind was found, after a challenge from John Bachman, to be a reworked version of an 1845 paper for the *Revue Suisse*, with an ending changed to suit Agassiz' new viewpoint.

------. *Contributions to the Natural History of the United States of America*. Boston: Little, Brown and Co, 1857.

Agassiz' major work during the first period of his life in the United States. The book was intended to be one volume of a much larger work that would appeal to specialist and popular readers alike. Agassiz was a lifelong exponent of Lamarck and arch-denier of Darwin, stating firmly that any development and growth that occurred in nature was due to inherited characteristics, not evolution.

------. *An Essay on Classification*. London: Longman, Brown, Green, Longmans, & Roberts, 1859.

The *Essay on Classification* was itself subsumed in the greater work, *Contributions to the Natural History of the United States* (1857) but was also published in book form.

American Association for the Advancement of Science. *Proceedings of the American Association for the advancement of Science, Third Meeting held at Charleston SC, March 1850* (Charleston, Walker and James, 1850)

Conference proceedings from the third AAAS meeting which proceeded in Charleston following Agassiz' lobbying. This volume is significant in that it reflects one of the geographical and historical centers of the debate on human origins. Josiah Nott sent a paper to be read, and Agassiz made his well-published supportive statement supporting the pluralist / polygenist stance. Thomas Smyth and John Bachman opposed this stance at the meeting.

Bachman, John. *The Doctrine of the Unity of the Human Race Examined on the Principles of Science*. Charleston, SC: C. Canning, 1850.

This book is Bachman's major contribution to the Monogenist – Polygenist debate. It refutes much of Samuel Morton's *Crania Americana* as well as his published papers on hybridity. Bachman believed firmly that humanity had a single point of origin even though at the same time he believed that Negro inferiority and the biblical rationalization of slavery was justified.

------. "An Investigation of the Cases of Hybridity in Animals on Record, Considered in Reference to the Unity of the Human Species." *Charleston Medical Journal and Review* 5, no. 2 (March 1850): 168-97

------. "A reply to the letter of Samuel George Morton MD on the Question of Hybridity in Animals considered in reference to the Unity of the Human Species." *Charleston Medical Journal and Review* 5, no. 4 (May 1850): 466-508

------. "Second letter to Samuel G. Morton on the Question of Hybridity in Animals, Considered in Reference to the Unity of the Human Species." *Charleston Medical Journal and Review* 5, no. 5 (September 1850): 621-60.

------. "Additional Observations on Hybridity in Animals and on some collateral subjects." *Charleston Medical Journal and Review* 6, no. 3 (May 1851): 383-396.

Bachman's side of the debate with Samuel Morton on the question of hybridity and its validity in the theory of human origins. Bachman pointed out the flaws in Morton's science and disputed the validity of several of Morton's authorities, some of which were found in antiquity. Ancient sources were misleading, but Morton contended the situation of the Negro population was true then and was demonstrably true two thousand years later.

------. "Letter from Rev John Bachman DD." *Charleston Medical Journal and Review* 6, (1851): 598.

A letter from Bachman in which he notified the *Charleston Medical Journal and Review* that he would refrain from further debate on hybridity and human origin for the time being, after Morton's death.

------. “Types of Mankind.” *Charleston Medical Journal and Review* 9, no.5 (September 1854): 627-659.

------. *Continuation of the Review of “Nott and Gliddon’s Types of Mankind.”* Charleston: James, Williams and Gitsinger. 1855.

Bachman’s “Thundering” and very lengthy two-part review of Nott and Gliddon’s tome, which Bachman dismissed as “Types of Infidelity.” He ignored Gliddon’s contribution entirely, dismissed Nott’s science as inadequate, and concentrated on the chapter written by Louis Agassiz, and Henry Patterson’s biographical account of Morton. Patterson’s chapter included a few swipes at Bachman in its pages.

------, and Gene Waddell. John Bachman: *Selected Writings on Science, Race, and Religion.* Athens: University of Georgia Press, 2011.

Selections from Bachman’s writings and correspondence. Useful for his first paper on the behavior of vultures, and later for a letter to Samuel Morton, at the Academy of Natural Science of Philadelphia, stating that Richard Harlan, M.D had wrongfully claimed his own identification of a new variety of hare.

Blumenbach, Johann Friedrich, and John Hunter. *The Anthropological Treatises of Johann Friedrich Blumenbach.* London: Longman, Green, Longman, Roberts & Green, 1865.

English translation of Blumenbach’s works. Blumenbach was the originator of the term ‘Caucasian’ to describe his conception of the most perfect human form. He recognized five varieties of *Homo Sapiens*, but stated their differences were negligible. His use of the term “degeneration” was widely mistranslated from the original Latin *de generis* (of the kind) and came to imply a state akin to gradual corruption.

Cabell, J. L. *The Testimony of Modern Science to the Unity of Mankind Being a Summary of the Conclusions Announced by the Highest Authorities in the Several Departments of Physiology, Zoology, and Comparative Philology in Favor of the Specific Unity and Common Origin of All the Varieties of Man.* New York: R. Carter, 1859.

This book has its origins in the *Protestant Episcopal Review and Church Register* in which Cabell reviewed Nott and Gliddon's *Types of Mankind.* "A failure at any one step is fatal, and. as we have seen, they fail everywhere.” (p. 284). This later work includes a number of appendices, one of which contains an equally damning review of Nott and Gliddon's later work, *Indigenous Races of the Earth.*

Caldwell, Charles. *Thoughts on the Original Unity of the Human Race*. New York: E. Bliss, 1830.

This is the earliest American work setting out the pluralist / polygenist viewpoint. Caldwell specifically rejected the theories of Samuel Stanhope Smith's in *Thoughts on the Original Unity of the Human Race* and James Cowles Prichard's *Researches into the Physical History of Mankind, which* both proposed that the human species was descended from a single ancestor pair. Caldwell's preface said that 'sound religion' should not be threatened by robust discussion.

------, and Harriot W. Warner. *Autobiography of Charles Caldwell, M.D.* Philadelphia: Lippincott, Grambo and Co., 1855.

Written in the last seven years of his life and published posthumously, Caldwell denied he caused the early death of Samuel Stanhope Smith by his attacks in *Thoughts on the Original Unity of the Human Race,* and further denied that he disputed the of origin of the human race at all. Caldwell claimed only to have denied the power of climate to change the races.

Carroll, Charles. *The Negro Not the Son of Ham, or, Man Not a Species Divisible into Races.* Chattanooga, TN: Times Print, 1898.

This is an early racist tract in which Carroll states that the Negros are not part of the same creation as the white race, effectively being pre-Adamite beasts without souls. Racial mixing is also described as an insult to God.

Clodd, Edward. *Pioneers of Evolution from Thales to Huxley; With an Intermediate Chapter on the Causes of Arrest of the Movement*. London: Grant Richards, 1897, repr. 1972 Freeport, NY: Books for Libraries Press.

A sweeping history of evolutionary thought from ancient times to the end of the 19th century. Edward Clodd (1830-1940) was a banker who cultivated a wide circle of literary and scientific friends including Darwin, Spencer and Huxley. He had a personal involvement in the presentation of both Alfred Russel Wallace and Darwin's paper at the Linnean Society in 1858. Clodd comments extensively on Wallace's fascination with spiritualism, which in his opinion weakened his reputation as a scientist.

Crawfurd, John, and John Baxter Langley. *The Plurality of the Races of Man: A Discourse*. London: Truebner, 1867.

John Crawfurd was president of the Ethnological Society of London from 1861 and published 38 articles during his tenure. He was another of the Polygenists cited by Darwin in *The Descent of Man.*

------. "On the Classification of the Races of Man," *Transactions of the Ethnological Society of London,* 1 (1861): 354-378.

An article listing the various races of man as separate species and theorizing as to their individual origins. Discussed Prichard and dismissed the theories of Unity as untenable.

------. "On the Commixture of the Races of Man as Affecting the Progress of Civilization (Europe)" *Transactions of the Ethnological Society of London,* 2 (1863): 201-213.

This paper discusses the mixing of different races and their languages, and implies that the superior races benefit the lower. It is racist in tone, casting the African Negros as the lowest of all the races.

------. "On Language as a Test of the Races of Man," *Transactions of the Ethnological Society of London*, 3 (1865):1-9.

This paper theorizes that while language provides evidence of human migration, it gives no clue as to racial origin of individual human beings.

Delany, Martin Robison. *The Origin of Races and Color, with an Archeological Compendium of Ethiopian and Egyptian Civilization, from Years of Careful Examination and Enquiry.* Philadelphia: Harper & Brother, 1879.

Martin Delany was a black activist and the only black officer to hold field rank in the army during the American Civil War. This book proposes that the ancient Egyptian civilizations were a black race, not Caucasian, as Morton, Nott and Gliddon had proposed.

Darwin, Charles. *On the Origin of Species by Means of Natural Selection, or, The Preservation of Favoured Races in the Struggle for Life*. London: John Murray, 1859.

This is Darwin's first and most famous book on evolutionary theory, although the term is not used until the very last sentence. Darwin refutes the creationists and special creationists who that each species had its fixed point of creation and did not change at all, and proposes that all life originated from a common ancestor, and change to suit prevailing conditions.

Darwin, Charles. *The Descent of Man, and Selection in Relation to Sex*. London: John Murray, 1871.

This is Darwin's second book on evolutionary theory, applying that theory to humanity, paying special attention to sexual selection. The work specifically denied the creationist theories of monogenism and polygenism, especially the polygenism of *Types of Mankind*, and even convinced Josiah Nott of the veracity of evolutionary theory over the fixity of species.

Douglass, Frederick. *The Claims of the Negro, Ethnologically Considered: An Address Before the Literary Societies of Western Reserve College, at Commencement, July 12, 1854.* Rochester, NY: Press of Lee, Mann & Co, 1854.

Douglass' first commencement speech at Western Reserve College in July 1854, published in pamphlet form. In the pamphlet, Douglass stated his beliefs in the unity of the human species and roundly attacked the writings of the polygenists, making specific reference to Morton and *Crania Americana* and Nott and Gliddon's *Types of Mankind.*

Dyson, J. F. *A New and Simple Explanation of the Unity of the Human Race and the Origin of Color.* Nashville, TN: Southern Methodist Pub. House, 1886.

African American author J.F. Dyson put forward a different explanation for the unity of the human race: His studies of etymology suggested that Adam was a man of color, actually red, and that Eve was white. All their progeny were therefore of differing color and were the originators of the various racial groups.

Fitzhugh, George. *Sociology for the South or, The Failure of a Free Society*. Richmond, VA: A. Morris, 1854.

This book is a pro-slavery text that, while overtly racist in tone, actually denied the theory of polygenism and referred specifically to Nott and Gliddon's *Types of Mankind*, because it was biblically unacceptable.

Gobineau, Arthur. *Essai sur l'inégalité des races humaines*. Paris: Didot, 1855.

Gobineau's long tract proposes the existence and superiority of an Aryan race whose originator was Adam. Gobineau does not suggest that the separate races are different species, simply that there are superior and inferior races. All the major civilizations in world history were white in origin. Despite the Aryan overtones the book is, perhaps surprisingly, not anti-Semitic.

------. Josiah Clark Nott, and H. Hotz. *The Moral and Intellectual Diversity of Races with Particular Reference to Their Respective Influences in the Civil and Political History of Mankind*. Philadelphia: Lippincott, 1856.

This book is the translation of Gobineau's work commissioned by Josiah Nott who supplied a substantial appendix. Gobineau was displeased with the translation that was 'doctored' to reflect Nott's view of the races. Hotz omitted key sections of Gobineau's arguments, specifically those relating to race mixing, the decay of American civilization, and the practice of slavery and slaveholding. Nott added a chapter and used it to restate polygenic theory and to lambast Bachman. Another translation superseded this one in the early 20th century.

Gray, Asa. *Darwiniana - Essays and Reviews pertaining to Darwinism*. New York: Appleton, 1876

A collection of Gray's papers and articles over 16 years on all matters relating to Darwin, "Collected at the request of friends and correspondents, who think that they may be useful." Includes Gray's 1860 review of the *Origin of Species* for the *American Journal of Science and Arts.*

Jefferson, Thomas, and William Peden. *Notes on the State of Virginia. Edited with an Introduction and Notes by William Peden*. 1787. Reprint. Chapel Hill: Univ. of North Carolina Press, 1955.

Thomas Jefferson's only monographic work, itself a collection of notes in reply to various queries, particularly a detailed questionnaire from the French. Jefferson shows little interest in the origins of the Native Americans.

Lane, Edward William, and Reginald Stuart Poole. *The Genesis of the Earth and of Man: A Critical Examination of Passages in the Hebrew and Greek Scriptures, Chiefly with a View to the Solution of the Question Whether the Varieties of the Human Species Be of More Than One Origin: with a Supplementary Compendium of Physical, Chronological, Historical, and Philological Observations, Relating to Ethnology*. Edinburgh: Adam and Charles Black, 1856.

Although its authorship is slightly unclear, this book was attributed to the English orientalist and lexicographer Lane. Two questions are discussed in this work: the biblical cosmogony, and the unity or plurality of the origin of the human species. Lane's analysis of the text of the Bible favors the existence of a pre-Adamite race.

LSM. [Louisa S. McCord]. "Diversity of Races – Its bearing upon Negro Slavery." *Southern Quarterly Review* 3, no.6 (April 1851): 392-419.

This article reviews two of Morton's replies to John Bachman, Agassiz' original article in the *Christian Examiner*, and *The Races of Men* by Robert Knox. Louisa McCord was one of the few female Southern commentators to write on the subject, and proudly defended slavery, calling on the scientific evidence of polygenism, saying that the South was "unconscious" of the "iniquity" of slavery, and patronizing Bachman's scientific ability at the same time.

Meiners, Christoph. *Grundriss der theorie und geschichte der schönen wissenschafften*. Im Verlage der Meyerschen Buchhandlung, 1787.

Meiners was a philosophical opponent of Kant and a very early supporter of polygenism. This book sets out his theory that the main differentiating characteristic between the races was beauty. The white race was beautiful; the black race was ugly, lacked feelings and was degenerate.

Mitchell, John, and Peter Collinson. “An Essay upon the Causes of the Different Colours of People in Different Climates; By John Mitchell, M. D. Communicated to the Royal Society by Mr. Peter Collinson, FRS.” *Philosophical Transactions* 43 (1744 - 1745): 102-150.

A paper submitted to the Royal Society of London. Mitchell claimed that the first humans had "an intermediate tawny colour" and that other the coloring of races came about over a long period in different climates.

Miller, Hugh, and Louis Agassiz. *The Foot-prints of the Creator, or, The Asterolepis of Stromness.* New York: Hurst, 1850.

First published in 1849, this book is a mixture of “science and Christian truth” which opposed developmental (later evolutionary) theories for the origin of life. Miller believed the earth was of a great age and many species had come and gone over time. This 1850 New York Edition included an essay by Agassiz remembering the author.

Morgan, Lewis Henry. *Ancient Society*. Chicago: Charles H. Kerr, 1877.

Morgan was for many years regarded as the standard text on anthropology, kinship and society. Introduced the three stages of society, and posited a link between social and technological progress. Later anthropologists rejected some of the larger theories, but Morgan's study of kinship and matrilineal society is unchallenged.

------. “Houses of the Mound-Builders.” *The North American Review* 123, no.252 (July 1876): 60-85.

Published immediately before his chef d’oeuvre *Ancient Society.* Morgan considers the living conditions of the ancient tribes who built the mounds and speculates on their tribal origins, migration, and the uses for the mounds themselves. Lewis Henry Morgan was an early proto- middle-grounder who was also admired by historians like Karl Marx. The essay demonstrates that scientific thought was adopting the concept of matrilinearity and kinship even if some of his concepts were later discredited.

Morton, Samuel George, and George Combe. *Crania Americana, or, A Comparative View of the Skulls of Various Aboriginal Nations of North and South America To Which Is Prefixed an Essay on the Varieties of the Human Species; Illustrated by Seventy-Eight Plates and a Colored Map.* Philadelphia: J. Dobson, 1839.

Morton’s first major work in which he advanced the theory that humanity was divided into a number of families or varieties. Also notable for introducing the theory that the Ancient Egyptians were Caucasian in origin, on other words white, rather than being negro.

------. *Brief Remarks on the Diversities of the Human Species, and on Some Kindred Subjects Being an Introductory Lecture Delivered Before the Class of*

Pennsylvania Medical College, in Philadelphia, November 1, 1842. Philadelphia: Merrihew & Thompson, 1842.

------. *Crania Aegyptica, or, Observations on Egyptian Ethnography, Derived from Anatomy, History and Monuments, From the Transactions of the American Philosophical Society, Vol IX*. Philadelphia: John Pennington, 1844.

A shorter work based on the collection of skulls passed to him by George Robins Gliddon that confirms that the ancient Egyptians were Caucasian, and that they had employed Negro slaves or servants since the earliest time.

------. "Hybridity in Animals, Considered in Reference to the Question of the Unity of the Human Species," *American Journal of Science and Arts* 3, 2nd Series, 1847: 39-50.

Morton's article, read to the ANSP on November 4 and 11, 1846, argues that a limited fertility is feasible for inter-species hybrids. John Bachman attacked much of the scientific validity of the argument in this paper in 1850.

------. *Letter to the Rev. John Bachman, D.D., on the Question of Hybridity in Animals: Considered in Reference to the Unity of the Human Species*. Charleston, SC: Walker & James, 1850.

------. *Additional Observations on Hybridity in Animals, and on Some Collateral Subjects: Being a Reply to the Objections of the Rev. John Bachman*. Charleston, SC: Walker & James, 1850.

Two of Morton's replies to John Bachman in the Charleston debate, published in the *Charleston Medical Journal and Review* in 1850-51 and in pamphlet form. Morton continued to argue that inter-species hybridity was feasible. He proposed that such breeding would ultimately result in infertile offspring. He used a number of (occasionally specious) examples to prove his point, which Bachman repeatedly refuted. The debate ended only when Morton died suddenly in 1851

Nott, Josiah Clark. "Statistics of Southern Slave Populations with special Reference to Life Insurance and the Question of Slavery and the Slave States," *De Bow's Review* 4, (1840): 280.

Josiah Nott's first salvo in his assault on racial theory was an article in the *Boston Medical and Surgical Journal* here reprinted by James D.B. De Bow. This article highlighted health difficulties with Negros and Mulattos.

------. "The Mulatto a Hybrid - Probable Extermination of the Two Races If the Whites and Blacks Are Allowed to Intermarry." *The New England Journal of Medicine* 29, no. 2 (16 August 1843): 29-32.

Nott's next shot in his assault on racial theory claimed that the two races were in fact separate species and the lack of child-rearing success indicated that mixed race births were inter-species hybrids that would prove ultimately to be sterile.

-----. *Two lectures on this natural history of the Caucasian and Negro races*. Mobile, AL: Dade and Thornton, 1844.

The Franklin Society of Mobile invited Nott to address a meeting with a paper on a subject of his own choosing. Nott used this platform to lecture on race. He challenged the "Mosaic" theory of human development since the flood and questioned the biblical account of creation, especially its chronology. The lectures met with controversy, and Mott arranged a rapid publication together with a defense of his thesis.

------. *Two Lectures on the Connection between the Biblical and Physical History of Man, Delivered by Invitation, from the Chair of Political Economy, Etc., of the Louisiana University, in December, 1848*. New York: Bartlett and Welford, 1849

Published version of the texts of two lectures Nott gave in New Orleans at te invitation of his friend J. D. B De Bow, who was on the Faculty of the Louisiana University. Nott delivered a further attack on the validity of the Biblical chronology when considering the origin of man and racial development. Nott also held to the opinion that slavery was the only possible relationship between blacks and whites in the South.

------. *An Essay on the Natural History of Mankind, Viewed in Connection with Negro Slavery: Delivered to the Southern Rights Association, 14th December 1850* (Mobile: 1851).

The text of an address given by Nott at a meeting of the Southern Rights Association to discuss the Compromise of 1850 and the admission of California to the Union as a free state.

------, "Diversity of the Human Race," *De Bow's Southern and Western Review* 3rd Series 4, no 2 (February 1851)113-132.

Nott's scathing review of Bachman's *The Doctrine of the Unity of the Human Race Examined on the Principles of Science*. The tone of the review was mocking, unconstructive, and differed significantly from the genteel if robust correspondence Bachman had held with Morton. Nott's mocking of Bachman included changing one of his post-nominal memberships to "Am.Ass."

------, George R. Gliddon, Samuel George Morton, Louis Agassiz, William Usher, and Henry S. Patterson. *Types of Mankind: Or, Ethnological Researches : Based Upon the Ancient Monuments, Paintings, Sculptures, and Crania of Races, and Upon Their Natural, Geographical, Philological and Biblical History, Illustrated by Selections from the Inedited Papers of Samuel George Morton and by*

Additional Contributions from L. Agassiz, W. Usher, and H.S. Patterson. Philadelphia: J.B. Lippincott, Grambo, 1854.

This book is a significant milestone in the rise of polygenist theory to the status of accepted science in the United States and abroad. A contemporary bestseller, it is essentially a compendium of polygenist and racist theory with the added cachet of previously unpublished work by Samuel Morton and an essay commissioned from Louis Agassiz. Gliddon's text is virtually incomprehensible. Much of Nott's contribution is re-used work from earlier essays. Patterson's essay on Bachman was a defense of everything Morton did, and criticized Bachman. Usher claimed that archaeologists had discovered the fossilized remains of humans in the Mississippi delta.

------. "Reply to Dr. Bachman's Review of Agassiz' Natural Provinces." *Charleston Medical Journal and Review*10, (1855):753-67

This article is Nott's reply to Bachman, who had attacked Louis Agassiz' contribution to *Types of Mankind* in the *Charleston Medical Journal and Review*. Bachman took detailed issue with Agassiz' essay, and deliberately ignored most of Nott's, and all of Gliddon's work. Bachman effectively snubbed 90% of the book in so doing. Nott's reply was sharp and insulting.

------. George R. Gliddon, and L.-F.-Alfred Maury. *Indigenous Races of the Earth, or, New Chapters of Ethnological Inquiry: Including Monographs on Special Departments of Philology, Icongraphy, Cranioscopy, Palaeontology, Pathology, Archaeology, Comparative Geography, and Natural History*. Philadelphia: J.B. Lippincott, 1857.

The sequel to *Types of Mankind,* conceived and written largely by Gliddon. Nowhere near as successful as its predecessor and the subject of much ridicule in review. Gliddon did coin the terms "monogenist" and "polygenist" in this book, although his inflated and verbose writing style militates against a succinct definition, if one is indeed present at all.

------. *Instincts of Races*. New Orleans: L. Graham, 1866.

Nott wrote to General Oliver O. Howard, commissioner of the Freedmen's Bureau, telling him that the Bureau was doing more harm than good, and that Northern Negro troops should leave the South inndeiately. The South would then go about restoring itself following the Civil War.

Philanthropist. [pseud.]. "Vital Statistics of Negroes and Mulattoes." *Boston Medical and Surgical Journal* 27, no.10 (12 October 1842): 168-170.

An article that Josiah Nott picked up and answered, which pointed out the reduced life span and higher mortality rates of Negro and Mulatto (mixed-race) individuals outside their normal environment. The identity of the author remains unknown. Nott's

first article "The Mulatto a Hybrid" followed within a year of Philanthropist's contribution.

Pickering, Charles. *The Races of Man and Their Geographical Distribution*. Boston: Little and Brown, 1848.

Pickering was naturalist with the United States Exploring Expedition between 1838 and 1842. This book was intended to be part of a larger collection detailing the expedition. "Obscure in method and arrangement" according to Stanton, Pickering's support of the polygenist view was so impenetrably written that a London reviewer counted this book as among those supporting the view of the monogenists.

Pouchet, Georges, and Hugh J. C. Beavan. *The Plurality of the Human Race*. London: Longman, Green, Longman, and Roberts, 1864.

Pouchet's original De *la Pluralité des Races Humaines* (Paris, 1858) translated into English in 1864 by the Anthropological Society. Hugh J. C. Beavan, the editor and translator, recommended the book for the general reader but thought that Pouchet's opinions on spontaneous generation and polygenism were unsupportable by science, and stated in the preface he could not agree with any of it.

Prichard, James Cowles. *Researches into the Physical History of Mankind*. London: Sherwood, Gilbert, and Piper, 1837.

Originally published in 1813, Prichard's book seeks to "trace the history of tribes and races and to arrive at a conclusion as to their affinity or diversity of origin." Rejecting polygenism, Prichard made cultural and linguistic comparisons. Charles Caldwell, who claimed Prichard's evidence required too many miracles to fit the evidence, attacked his strongly religious view.

Rush, Benjamin. "Observations Intended to Favour a Supposition That the Black Color (As It Is Called) of the Negroes Is Derived from the Leprosy." *Transactions of the American Philosophical Society* 4, (1799): 289-297.

One of the founding fathers of the United States, Surgeon General of the Continental Army, opponent of slavery (although a slave-owner himself), Rush theorized that the discoloration of the skin of Negros was due to leprosy. He concluded that Whites should not intermarry to stop the spread of the condition. He did not attempt to deny the "sameness of descent" or the "natural equality of mankind."

Smith, Adam, Ronald L. Meek, D. D. Raphael, and Peter Stein. *Lectures on Jurisprudence*. Oxford: Clarendon Press, 1978.

Transcripts of Smith's Glasgow lectures of 1762-3 provide a useful insight into thinking of the Scottish Enlightenment and Smith's own opinions about the development of civilization, and that of the Native Americans.

Smith, Charles Hamilton. *The Natural History of the Human Species: Its Typical Forms, Primeval Distribution, Filiations, and Migrations*. Boston: Gould and Lincoln, 1851.

In this book, Smith maintains that there had always been three discrete human types. Although a unitarian / monogenist, Smith was not convinced by the theories of Buffon and Cuvier on species and made reference to Samuel George Morton and his theories. This American edition added an introduction by Samuel Kneeland, in which Kneeland made arguments for polygenism.

Smith, Samuel Stanhope. *An Essay on the Causes of the Variety of Complexion and Figure in the Human Species. To Which Are Added Strictures on Lord Kaims's Discourse, on the Original Diversity of Mankind.* Philadelphia: Robert Aitken, 1787.

Stanhope Smith's book – especially the revised edition of 1810, is the first American attempt to explain the wide differences in physical appearances among humans. Increasing numbers of polygenists targeted the environmental rationale in the mid nineteenth century. Charles Caldwell attacked Stanhope Smith in *Thoughts on the Original Unity of the Human Race* and caused Smith much distress, bringing on a nervous breakdown and hastening his death. Caldwell strenuously denied the charge that he caused Stanhope Smith's death..

Smyth, Thomas. *The Unity of the Human Races Proved to Be the Doctrine of Scripture, Reason, and Science With a Review of the Present Position and Theory of Professor Agassiz.* New York: G.P. Putnam, 1850.

Thomas Smyth was a member of the literary club of Charleston and an ordained minister like John Bachman. Smyth notably stood up at the AAAS meeting in Charleston in 1850 and disagreed with Louis Agassiz's position statement on pluralism. In this book, he refutes the theories of multiple creations as not only unscientific but also "inadmissible and profane."

Strong, Josiah. *Our Country: Its Possible Future and Its Present Crisis*. New York: Baker and Taylor, 1885.

This book is a strongly worded argument proclaiming the superiority of the American Christian Anglo-Saxon and the USA's position to dominate the world to come and hasten or delay Christ's kingdom in the world.

Weld, Theodore Dwight. *American Slavery As It Is: Testimony of a Thousand Witnesses*. New York: American Anti-Slavery Society, 1839.

For many years, this book was the standard text of the abolitionists. Weld asks the reader to give an "honest verdict… on the actual condition of Slavery in the United

States." Uses many personal narrative accounts of the conditions and treatment of slaves in the South.

White, Charles, Charles Dilly, and Samuel Thomas von Soemmerring. *An Account of the Regular Gradation in Man: And in Different Animals and Vegetables; and from the Former to the Latter.* London: C. Dilly, 1799.

White was an influential English surgeon, and this book defended a theory that all living organisms were part of a "chain of being" but that this chain was static. Humanity was at the highest point of the chain, although dark skinned humans were inferior to whites.

Winchell, Alexander. *Preadamites, or, A Demonstration of the Existence of Men Before Adam Together with a Study of Their Condition, Antiquity, Racial Affinities, and Progressive Dispersion Over the Earth*. Chicago: S.C. Griggs, 1880.

Winchell's first work on pre-adamite culture originally written in 1878 proposes that Africans could not have arisen from the same source as the white population. This made him one of the later followers of polygenism. Because of this book, Winchell lost his job at Vanderbilt University where he had been teaching, but he expanded his arguments in a longer work published 10 years later.

Wyman, Jeffries. "On the Measurement of Crania." *Anthropological Review* 6, no. 23 (October 1868): 345-49.

Wyman examines the different materials available, such as sand, peas, lead shot and other seeds for measuring cranial capacity. Wyman defends the late Samuel Morton from 'unjust' criticism by Sir William Hamilton of Morton's use of seeds and lead shot. Wyman concludes that there are advantages and disadvantages in either weighing the filling material or measuring the volume of filler to make a calculation.

SECONDARY SOURCES

Books

Bernasconi, Robert, and Tommy Lee Lott. *The Idea of Race*. Indianapolis: Hackett Pub. Co, 2000.

Selected readings in racial theory from Bernier and Voltaire through Hegel, Kant, Gobineau, and Darwin to Boas, Alain Locke, DuBois and modern academics of the 90s such as Michael Omi and Howard Winant.

Bieder, Robert E. *Science Encounters the Indian, 1820-1880: The Early Years of American Ethnology*. Norman: University of Oklahoma Press, 1986.

Bieder examines five significant 19th century scientists: Albert Gallatin, Samuel G. Morton, Ephraim Squier, Henry Rowe Schoolcraft and Lewis Henry Morgan. He considers the impact each scientist had on American anthropology as it developed in its earliest days. Morton and Squier are of special interest in this thesis.

Brace, C. Loring. *'Race' Is a Four-Letter Word: The Genesis of the Concept*. New York: Oxford University Press, 2005.

This book is an examination of the history of race from the American perspective up to the end of the twentieth century. Brace challenges the validity of the entire concept, since he believes "race" has no biological basis whatsoever. The elements of human biology can never be understood if "race" is the starting-point of the study.

Brantlinger, Patrick. *Dark Vanishings: Discourse on the Extinction of Primitive Races, 1800-1930*. Ithaca, NY: Cornell University Press, 2003.

This book discusses the European attitude to "race extinction" partly in attempt to justify the ongoing policies of exterminating aboriginal races. European society failed to agree on a satisfactory definition of 'race' and effectively consolidated any race it did not understand, including the Irish, and either accepted or became resigned to that race's extinction as part of the natural process.

Brown, B. Ricardo. *Until Darwin, Science, Human Variety and the Origins of Race*. London: Pickering & Chatto, 2010.

Brown's work fills a gap in recent studies on the history of race and science. This book looks at the rise of the emerging sciences of life and society - biology and sociology - as well as the debate surrounding slavery and abolition

------. "Darwin, Slavery, and Science" in *The Civil War and Reconstruction Era: 1850s-1877* in the series *Conflicts in American History,* edited by Brian L. Johnson and Edward J. Blum. Columbia, SC, Manly, 2009.

This chapter is probably one of the precursors of *Until Darwin.* Brown summarizes Darwin's position and those of the monogenists and polygenists, appending a number of primary source documents to the article including an excerpt from *Types of Mankind.*

Cash, W. J. *The Mind of the South*. 1941. Reprint. New York: Vintage Books, 1991.

Famous, frequently rambling and discursive history of the South as it appeared to an educated native North Carolinian in the 1930s. This book contains much that is apocryphal or not accurate, and concentrates a lot of its narrative effort on the cotton mills of the Carolinas. It is useful as a measure of the nineteenth century and how it was regarded from the vantage point of the 1930s and 1940s.

Conser, Walter H. *God and the Natural World: Religion and Science in Antebellum America*. Columbia, SC: University of South Carolina Press, 1993.

This book is a study of the relationship between scientists and religious thinkers in the Antebellum. There was considerable blurring of the lines between the humanities, theology and science. At the same time what would later be described as social science found an affinity with religion.

Crawford, Michael H. *The Origins of Native Americans: Evidence from Anthropological Genetics*. Cambridge: Cambridge University Press, 1998.

Crawford's thesis is that the Native American population was in fact Asian (Paleo-Indian) and crossed the Bering land bridge, being isolated from the old world for 30,000 years. Studies are made of pre-contact population sizes and the colonization patterns of different ethnic groups. This is a good example of the more modern approach to the history of ancient America.

Daniels, George H. *American Science in the Age of Jackson*. New York: Columbia University Press, 1968.

This book was one of the first attempts to study the birth of American Science after the war of 1812. Scientific journals started to appear at that time, and Daniels identifies a group of fifty-four key scientists who published repeatedly. One of these was Samuel Morton. Daniels studied the apparent reliance of early American scientists upon Baconian Theory, and proposed that this may have stifled early scientific development in America.

Desmond, Adrian J., and James Richard Moore. *Darwin's Sacred Cause*. London: Allen Lane, 2009.

This book offers a reinterpretation of Darwin's motivation for his evolutionary theory. The authors claim that his strongly abolitionist family heritage may have proved influential in shaping his philosophy and attitudes and may have provided an impetus to prove the equality of humankind. His experiences on the *Beagle* and especially his observations of slavery in South America affected him very deeply.

Fabian, Ann. *The Skull Collectors: Race, Science, and America's Unburied Dead*. Chicago: University of Chicago Press, 2010. (Kindle Edition)

This book is a detailed, informal and accessible study of Samuel G. Morton, with additional biographical sketches of a number of his contemporaries. Morton's interactions with other members of the American school, especially the seemingly conspiratorial relationships with George Combe and George Gliddon are noteworthy. Morton's position in the scientific community of Philadelphia, the United States and the world is put into a useful historical context.

Fredrickson, George M. *The Black Image in the White Mind: The Debate on Afro-American Character and Destiny, 1817-1914*. New York: Harper & Row, 1971.

This book is a chronological examination of the rise of racial ideologies in nineteenth century America. The author argues that these anti-black intellectual concepts arose with other significant trends occurring in the American political, economic, and social arena. It is also significant that as much racial theory came out of the Northern states as out of the Southern.

Genovese, Eugene D. *Roll, Jordan, Roll: The World the Slaves Made*. New York: Pantheon Books, 1974.

Well known recanting Marxist Genovese offers a Marxist interpretation of the master-slave relationship and the hegemony that the slave owners sought to impose. Interesting views of the co-dependent nature of the master-slave society.

Gould, Stephen Jay. *The Mismeasure of Man*. [1981] New York: Norton, 1996.

This is a highly readable account of the motivations behind those who would judge intelligence, and human hierarchical position, by cranial size or other means of measurement such as intelligence tests. 19th century man saw himself on the top of creation's pyramid and sought to prove the facts (and stay at the top) by means of measurement. Some of those measurements were flawed from the outset, and Gould exposes those flaws.

Hinsley, Curtis M. *The Smithsonian and the American Indian: Making a Moral Anthropology in Victorian America.* Washington: Smithsonian Institution Press, 1994.

This is a study of the historical relationship and interactions between Native American tribes, the Bureau of American Ethnology and the Smithsonian Institution. Hinsley discusses the role of the Smithsonian in projecting the wishes and opinions of its patrons and organizers within contemporary American society.

Horsman, Reginald. *Josiah Nott of Mobile: Southerner, Physician, and Racial Theorist*. Baton Rouge: Louisiana State University Press, 1987.

This book is an excellent account of the life and career of Josiah Nott that makes extensive use of primary sources and archived correspondence. The sections on his racial theories and publications, and his correspondence with the other members of the 'American School' of ethnology are especially useful.

Kuper, Adam. *The Invention of Primitive Society: Transformations of an Illusion*. London: Routledge, 1988.

Kuper makes a useful contribution to the history of anthropology by examining the treatment of 'primitive societies' by successive generations of anthropologists. The author contends that there is no such thing as a true primitive society. Contains chapters on Lewis Henry Morgan, Rivers and Boas.

Lander, James. *Lincoln & Darwin: Shared Visions of Race, Science, and Religion.* Carbondale: Southern Illinois University Press, 2010.

One of History's bigger coincidences is that Abraham Lincoln and Charles Darwin were born on the same day in 1809. Both achieved fame in later life, and neither of them met or visited each other's country. In this book, Lander argues that both men shared a common dislike or hatred of slavery.

Myres, John Linton. *The Influence of Anthropology on the Course of Political Science*. Berkeley, CA: University of California Press, 1916.

This book started life as the presidential address to the Anthropological Section of the British Association for the Advancement of Science in 1909. Much expanded, the essays give a British perspective on the history of Anthropology and show the respect accorded to Nott and Gliddon's *Types of Mankind,* even though it acknowledges sectional and business interest in the science of the American School.

Oshinsky, David M. "*Worse Than Slavery:" Parchman Farm and the Ordeal of Jim Crow Justice.* New York: Free Press, 1996.

Oshinsky weaves an accessible and popular history of convict leasing and the development of the Mississippi State penitentiary at Parchman Farm. Useful introduction to the development of racist culture and the chaotic violence of Mississippi at the time of Reconstruction.

Pringle, Heather Anne. *In Search of Ancient North America: An Archaeological Journey to Forgotten Cultures*. New York: John Wiley & Sons, 1996.

A readable and popular overview of various ancient North American civilizations, their archeological legacy and its interpretation. Useful chapters on Cahokia. Pringle's work is representative of modern thought on ancient civilizations in North America and their relative sophistication and interaction with their environment.

Silverberg, Robert. *Mound Builders of Ancient America; The Archaeology of a Myth*. Greenwich, CT: New York Graphic Society, 1968.

This is an exhaustive history of how the myth of a lost civilization took root in the early (and later) settlers in North America, who sought a classical past similar to what they had left behind in Europe. Silverberg considers their motivations and illuminates the formation of the myth with some historiographic insights

Stanton, William Ragan. *The Leopard's Spots: Scientific Attitudes Toward Race in America, 1815-59*. Chicago: University of Chicago Press, 1960.

This book is the standard work on 'American School' of ethnology. It charts the rise and fall of scientific racism in the scientific community of the United States and its effect on American society of the period. There is a very small amount on the effects of the Civil War on the later lives of a couple of the major figures.

Stephens, Lester D. *Science, Race, and Religion in the American South: John Bachman and the Charleston Circle of Naturalists, 1815-1895*. Chapel Hill: University of North Carolina Press, 2000.

Stephens' book is a sympathetic portrayal of Reverend Dr. John Bachman that contradicts in part the assertions in Stanton's *The Leopard's Spots,* referring in particular to Stanton's vision of the imbalance between Bachman's religion and his scientific capabilities. The chapters on Morton, Nott, and Gliddon and their interaction with Bachman are interesting for the negative qualities that Stephens ascribes to these men.

Stocking, George W. *Race, Culture, and Evolution: Essays in the History of Anthropology: with a New Preface*. Chicago: University of Chicago Press, 1982.

George Stocking is a key author in the history of anthropology. This book is a collection of essays documenting the course of anthropological thought from the start of the 19th to the early 20th century. It includes sections on post-Darwinism., cultural Darwinism, racial formalism, Boas, Lamarck and the reaction against cultural anthropology in the early 20th century.

Thomson, Keith Stewart. *Before Darwin: Reconciling God and Nature*. New Haven: Yale University Press, 2005.

This book traces conflicts and accommodations between religion and the new sciences through the writings of David Hume, Robert Hooke, John Ray, Erasmus Darwin (Charles' grandfather), Thomas Burnet, and William Whiston. Thomson finds surprising and direct connections between the anti-evolutionary writings of natural theologians like William Paley, and the arguments that Darwin employed against his opponents.

Werth, Barry. *Banquet at Delmonico's: Great Minds, the Gilded Age, and the Triumph of Evolution in America*. New York: Random House, 2009.

This is a popular and almost cinematic account of Herbert Spencer's tour of the United States, and the congratulatory banquet held for him in New York in 1882 before his return to Britain. It is useful in setting the social and political background in which Darwinism and social Darwinism flourished.

Woodward, C. Vann. *Origins of the New South, 1877-1913*. Revised Edition. Baton Rouge: Louisiana State University Press, 1971.

Origins of the New South paints an unflattering but plausible portrait of the South from the end of Reconstruction to the start of the Progressive Era, which differs from the more uplifting view of the 'New-South' genre. Some of those applying the 'New' label are, in Vann Woodward's opinion, doing so unwisely. They are furthering a myth that emphasizes what is "congenial to the New-South's mentality" while ignoring the rest.

Wyatt-Brown, Bertram. *Southern Honor: Ethics and Behavior in the Old South*. New York: Oxford University Press, 2007.

A quiet history of the rise of the code of Southern honor, which aroused some dislike in the South on its first publication. The author's thesis is to study "a distinct existence of honor" - distinct from both historical perceptions and the myths that have been encouraged by some factions of Southern society. Honor has proven to be "greater, longer, and more tenacious" than the views of previous scholars may have indicated.

Journal Articles

Allison, Vernon C. "The Mound Builders: Whence and When." *American Anthropologist, New Series* 29, no. 4 (October - December 1927): 670-88.

Notes and theories on the possible origins of the Ohio Mound Builders. Allison has no doubt that these were antecedents of modern Indian tribes and considers likely candidates, deciding on the common ancestors of the Pueblo. Also makes note of climate change affecting the Mound Builders' settlement patterns. Indicative of the revision of thought that the Mound Builders were the ancestors of the present Native Americans and not some other lost race.

Ben-Zavu, Yafl. "Where Did Red Go? Lewis Henry Morgan's Evolutionary Inheritance and U.S. Racial Imagination." *CR: The New Centennial Review* 7 no. 2 (2007): 201-29.

Examination of Lewis Henry Morgan's classification of races and the movement from a tripartite to binary racial structure. Suggests the racism implicit in Morgan's work in its treatment of African Americans.

Blanckaert, Claude. "Buffon and the natural history of man: writing history and the 'foundational myth' of anthropology." *History of the Human Sciences,* 6 no. 1 (1993): 13-50.

This paper argues that Buffon was not the founder of anthropology that many historians assume. Buffon's publication record indicates he was unaware he was doing nothing new. Blanckaert describes the circular conundrum in which historians hail Buffon as the founder because he allegedly "is" the founder, despite having done nothing new or left any evidence to that effect.

Boëtsch, Gilles “Égypte noire et Berbérie blanche. La rencontre manquée de la biologie et de la culture” (Black Egypt, White Barbary: The Missed Meeting between Biology and Culture) *Cahiers d'Études Africaines* 33, Cahier 129, “Mesurer la différence: l'anthropologie physique” (1993): 73-98.

In this article, Boëtsch discusses the various ways in which Egyptian and North African culture in general has failed to be appropriately described since the earliest scientific studies conducted by Anglo-Saxon Europeans, since those Europeans are determined to find their own likeness.

Brace, C Loring. “The "ethnology" of Josiah Clark Nott.” *Bulletin of the New York Academy of Medicine* 50, no. 4 (April 1974): 509–28.

This article discusses the variable use of the term “ethnology” in the 19th and 20th century contexts and examines in detail the role of Nott as an ethnologist and racial provocateur.

Count, Earl W. “The Evolution of the race idea in modern Western culture during the period of the pre-Darwinian nineteenth century.” *Transactions of the New York Academy of Sciences* 8, no.4 (February 1946): 139-65.

Count analyses the rise of race as a measurable or definable issue in the nineteenth century against the backgrounds of colonialism, and argues that with the concept of race, anthropologists and historians made a tool which modern society has picked up and used.

Ellwood, Charles A. "The influence of Darwin on sociology.” *Psychological Review* 16, no. 3 (May 1909):188-94.

Ellwood considered Darwin to be the greatest thinker of the 19th century and considers that no-one understood the social implications of his theories at the time. Ellwood proposed that all students of philanthropy and social scientists must acknowledge that there would be a biological element to social problems from this point onwards. He referred to studies of eugenics commencing in the USA and Great Britain. Useful in marking the thinking of the era when Cold Spring Harbor Laboratory was making itself known in the field.

Erickson, Paul A. “Phrenology and Physical Anthropology: The George Combe Connection” *Current Anthropology* 18, No.1 (March 1977): 92-93.

Erickson examined the papers of George Combe in the National Library of Scotland. He found that there was considerable interaction between phrenologists, craniologists and ethnologists during the mid-nineteenth century even though contemporary figures tended to play down the connection between phenology and science. George Combe was a popular phrenologist and one of the major linking figures in this period between the American School and some British intellectuals.

------. “The Anthropology of Charles Caldwell, M.D.” *Isis* 72, no. 2 (June 1981): 252-6.

Erickson examined the career of Charles Caldwell and considered that he was an influential if lesser-known member of the American school of physical anthropology. Despite his deficiencies and “representing antebellum American anthropology in caricature,” Caldwell demonstrated that physiology played an important part in the history of anthropology.

Fields, Barbara J. “Ideology and Race in American History” in *Region, Race, and Reconstruction: Essays in Honor of C. Vann Woodward.* Eds C. Vann Woodward and J. Morgan Kousser, and James M. McPherson. (New York: Oxford University Press, 1982).

This article argues that race is an ideological concept and that it should not have any other value in modern society. Fields sees the role has played in American history to be analogous to that of the frontier. Many historians perceive race to be an overarching theme whereas it is actually the ideological medium in which the struggle for power was played out.

Fields, Barbara J. *RACE - The power of an illusion.* Edited transcript of a presentation given at a "School" for the producers of [the PBS documentary] RACE - March 2001. http://www.pbs.org/race/000_About/002_04-background-02-02.htm (12 April 2014)

A presentation for Television producers at which Barbara J. Fields gives a philosophical and historical summary of the concept of race in the American historical context.

Foster, J. W. “Certain Peculiarities in the Crania of the Mound-Builders.” *The American Naturalist* 6, no. 12 (December 1872): 738-47.

Foster considers the origins of the Mound Builders of Ohio to be of a race superior to the contemporary Native Americans. This work references Samuel G. Morgan and mirrors some of his racist beliefs. An exemplar of some of the works of educated but amateur historians of the period.

Gissis, Snait B. “Visualizing “Race” in the Eighteenth Century” *Historical Studies in the Natural Sciences* 41, no. 1 (2011): 41–103.

This paper looks at the conditions of the emergence of “race” as a new scientific category during the eighteenth century. Giss argues that two modes of discourse and visualization played a role: Society, civility, and civilization—as found principally in the travel literature—and nature, as found in natural history writings, especially in botanical classifications. Gissis also notes that the concept of “race” was not well defined, nor was it limited to the demarcation between white and black humans.

Haller, John S. Jr. "The Species Problem: Nineteenth-Century Concepts of Racial Inferiority in the Origin of Man Controversy" *American Anthropologist* 72, no. 6 (December 1970): 1319-29.

Another useful history of the monogenist / polygenist schism. Haller is one of the few authors to point out the confusion in terminology between the monogenist and polygenist vocabulary, especially where the principals used terms like race, species and type indiscriminately at times. He argues that the American Civil War was responsible for ending the racial inferiority concept in America although he notes that it continued in Europe for many years to come. At the time of writing there were no doubt racial issues coming to the fore in the contemporary USA.

Harrison, Peter. "Linnaeus as a Second Adam? – Taxonomy and the Religious Vocation." *Zygon: Journal of Religion & Science* 44, no. 4 (December 2009): 879-93.

Harrison's paper argues that Linnaeus' nickname "Second Adam" arose because of Adam's role in naming the beasts in the Book of Genesis. The use of such a nickname also implied some importance to the naturalists in Eighteenth Century society.

Holmes, W.H. "Some Problems of the American Race" *American Anthropologist* 12, no. 2 (April - June 1910): 149-82.

A review of the origin of mankind precedes a view of the developments of the American Race. Holmes leaves several questions on monogenism and polygenism open, and foresees in the future a global melting pot in which all races will eventually merge. The alternative is that a stronger race will overcome a weaker in less pleasant circumstances. Holmes predicts the complete disappearance of the Native Americans as a discrete race "in the very near future."

Horsman, Reginald. "Scientific Racism and the American Indian in the Mid-Nineteenth Century" *American Quarterly* 27, no. 2 (May 1975):152-68.

Horsman argues that many historians writing about issues of racial inferiority have concentrated on the issues of the black/white racial divide and have hardly addressed the issue of the American Indian at all.

Hrdlička, Aleš. "Physical Anthropolgy in America: An Historical Sketch," *American Anthropologist*, New Series 16, no. 4, Facts and Problems of North American Anthropology 2 (October – December 1914): 508-54.

A brief overview of the history of Anthropology in the United States. The article is very polite about such characters as Morton, Nott and Gliddon while still acknowledging that their theories were obsolete by the early twentieth century.

Kenny, Robert. “From the Curse of Ham to the Curse of Nature: The Influence of Natural Selection on the Debate on Human Unity before the Publication of *The Descent of Man.” The British Journal for the History of Science*, 40, no. 3 (September 2007): 367-88.

This paper examines the debate engendered in ethnological and anthropological circles by Darwin's Origin of Species and its chief effect, which was finally to sever British ethnology from its evangelical monogenist roots.

Lewis J.E, with D. DeGusta, M.R. Meyer, J.M. Monge, A.E Mann, et al. “The Mismeasure of Science: Stephen Jay Gould versus Samuel George Morton on Skulls and Bias.” *Public Library of Science Biology* 9, no. 6 (June 2011) http://www.plosbiology.org/article/info%3Adoi%2F10.1371%2Fjournal.pbio.1001071 (12 April 2014).

Lewis and colleagues took Stephen Jay Gould to task for his perceived attack on Samuel G. Morton and his cranial studies in his book *The Mismeasure of Man.* They claim that after re-examining a small sample of the skulls in Morton’s collection that are preserved under the auspices of the University of Pennsylvania, that Morton did not fudge or distort his cranial measurements.

Littlefield, Alice, with Leonard Lieberman and Larry T. Reynolds. “Redefining Race: The Potential Demise of a Concept in Physical Anthropology.” *Current Anthropology*, 23 no. 6 (December 1982): 641-55.

This article discusses changes in the concept of race in the study of anthropology, particularly the challenge to the fundamental conc3epot of race in the mid-century and its revival in the 1970s and 80s. The authors examined 58 twentieth century anthropological textbooks and found that a much larger number of books published after 1970 opposed the validity of race as a concept. Authors who received their degrees in the 1960s when the concept of race was in decline also wrote the later textbooks.

Lorimer, Douglas. "Theoretical Racism in Late-Victorian Anthropology, 1870-1900.” *Victorian Studies* 31, no. 3 (Spring 1988): 405-30.

Discusses the concept of theoretical racism in the context of the learned societies of Victorian England. Also references the utility of these theories in countries such as the United States. Examines the constituent parts of the Anthropological Institute and its antecedents, discusses the learned laymen who made up these bodies in the main.

Loewenberg, Bert James. “The Reaction of American Scientists to Darwinism” *The American Historical Review* 38, no. 4 (Jul 1933): 687-701.

This article discusses the reaction of three individuals, Louis Agassiz, Asa Gray and James Dwight Dana, to the theories of Darwin. Agassiz staunchly opposed, Gray was Darwin’s evangelist, and Dana stood somewhere between the two.

------. “The Controversy over Evolution in New England, 1859-1873.” *The New England Quarterly* 8, no. 2 (June 1935): 232-57.

This article describes the reaction within New England to the theories of Charles Darwin as expressed both in the *Origin of Species* and in the *Descent of Man.* At the outset, most of the scientific and intellectual discussion on the book took place in the North due to its large and vocal scientific and intellectual community and the growing crisis of the American Civil War that occupied most other major centers of scientific endeavor.

------. “Darwinism Comes to America, 1859-1900.” *The Mississippi Valley Historical Review* 28, no. 3 (December 1941): 339-68.

This article is a stirring prose history with the flavor of Wilbur Cash. Given the publication date, the parallels with *The Mind of the South* are very tempting. Loewenberg traces the rise of the devotees of Darwin and the acceptance of Darwinism after the American Civil War. He discusses the scientific culture before Darwin in sweeping narrative that may explain why, after his 1933 article and 20 years before William Stanton, he makes no mention of the American School except to mention Louis Agassiz in passing.

Lurie, Edward. “Louis Agassiz and the Races of Man” *Isis* 45, no.3 (September 1954): 227-42.

This article is widely cited in textbooks and other articles on the history of the polygenist controversy. Lurie discusses Louis Agassiz's role in the dispute over the separate and specific creation of species, and argues that Agassiz's position demonstrated the manner in which a scientific theory served a social doctrine, illustrating the relationship between science and society in nineteenth century America.

Menand, Louis. “Morton, Agassiz, and the Origins of Scientific Racism in the United States” *Journal of Blacks in Higher Education*, no. 34 (Winter 2001-2002): 110-13.

In this article, Menand relates how Louis Agassiz and Samuel George Morton established a racist academic consensus at Harvard University by their research and publications.

Michael, J.S. "A New Look at Morton's Craniological Research.” *Current Anthropology* 29 (1988): 349-54.

This article criticizes Stephen Jay Gould’s *The Mismeasure of Man* and recalculates the data for 201 skulls in the Morton collection. Michael suggests that while Gould is “mistaken in many of his assumptions, he is correct in asserting that the tables are scientifically unsound.” Nevertheless, Michael hedges by saying Morton’s studies are

not a clear example of bias in research. J.E Lewis and his team re-discovered this article when they published their article "The Mismeasure of Science" on Stephen Jay Gould's alleged bias against Morton.

"Mismeasure for mismeasure." *Nature* 474 (23 June 2011): 419.

Editorial from *Nature* which urges a little more restraint upon J. E. Lewis and his colleagues whose article "The Mismeasure of Science: Stephen Jay Gould versus Samuel George Morton on Skulls and Bias" (qv) excoriated the late Stephen Jay Gould for showing bias in his own dismissal of Morton's "fudging" of statistics. The editorial notes the association of several of the authors with the University of Pennsylvania, the last resting place of the remains of Morton's collection.

Nartonis, David K. "Louis Agassiz and the Platonist Story of Creation at Harvard, 1795-1846." *Journal of the History of Ideas* 66, no. 3 (July 2005): 437-49.

This article discusses the reception of Louis Agassiz at Harvard and, after examining reader habits and library borrowing records that have been kept since 1770, concludes that the intellectual climate within the college gave rise to a Platonist theory of creation at Harvard. This was as much responsible for Agassiz' welcome as the scientist's dynamic personality that some historians have described.

Oguejiofor, J. Obi, "The Enlightenment Gaze: Africans in the Mind of Western Philosophy." *Philosophia Africana* 10, no.1 (March 2007): 31-36.

Oguejiofor's article proposes that the 'most towering figures' of the Enlightenment appear to have suspended philosophy's critical intelligence and substituted it for common prejudices. He argues strongly that European thinkers made great efforts "to elevate common cultural prejudices to statuses of sublime theoretical universalities."

O'Malley, Michael. "Specie and Species: Race and the Money Question in Nineteenth-Century America." *American Historical Review* 99, no.2 (April 1994): 369-95.

O'Malley's article looks at the Reconstruction period and compares the language of race to the language of money. It argues in part that discussions of money used the same terms, the same analogies and assumptions, as discussions of race.

Pearson, Adam R., with John F. Dovidio and Samuel L. Gaertner, "The Nature of Contemporary Prejudice: Insights from Aversive Racism." *Social and Personality Psychology Compass* 3, (2009):1-25.

This article argues that despite years of social settlement, current racial attitudes of Whites toward Blacks in the United States are still ambivalent and show a contemporary form of racial prejudice, which the authors identify as aversive racism.

Sanders, Edith R. “The Hamitic Hypothesis; Its Origin and Functions in Time Perspective.” *Journal of African History* 10, no. 4 (1969): 521-32.

Sanders examines the origins of the curse of Ham and the manner in which it historians concluded that Ham and his descendants were Negros. He gives aarticular emphasis to Napoleon’s invasion of Egypt in 1798 as the root of Egyptology and the first proposals that the Ancient Egyptians were black. The article also includes a useful summary of Morton, Nott and Gliddon’s theories.

Strong, Pauline Turner. “Recent Ethnographic Research on North American Indigenous Peoples.” *Annual Review of Anthropology* 34, (2005): 253-68.

Strong summarizes and gives a general overview of the decade of modern research between 1995 and 2004. The article deals with a number of contemporary issues in Native American anthropology and social issues such as alcoholism and gender identity that are not covered in other works.

Snyder, J.F. “The Great Cahokia Mound.” *Journal of the Illinois State Historical Society* 10, no. 2 (July 1917): 256-59.

A recapitulation and speculation on the origins of Monk’s Mound – the largest mound in the Cahokia complex. Snyder asserts that the mound is a natural formation that the Indians shaped, not a structure that they built. The article is useful in demonstrating the attitudes of the last of the old guard who did not accept the origins of the mounds, without being directly racist in its presentation.

Trubitt, Mary Beth D. “Mound Building and Prestige Goods Exchange: Changing Strategies in the Cahokia Chiefdom.” *American Antiquity* 65, no. 4 (October 2000): 669-90.

This article discusses the society and culture around the great Cahokia mound complex. Examines how culture there moved away from using the mounds as communal prestige objects to the exchange of prestige gifts for individuals. Demonstrative of modern scientific opinion of relatively sophisticated behavior among the Mound Builders.

Von Hofsten, N. “Ideas of Creation and Spontaneous Generation prior to Darwin.” *Isis* 25, no. 1 (May 1936): 80-94.

This article is a summary of a Swedish paper “Skapelsetro och uralstringshypoteser före Darwin.” (Uppsala, Arsskrift, 1928). The article summarizes the ideas and supporters of spontaneous generation from Antiquity through the Renaissance and Enlightenment to Buffon, Linnaeus, Cuvier, and Agassiz.

Walton, John H. "Human Origins and the Bible." *Zygon* 47, no. 4 (December 2012): 875-89.

This paper suggests that an interpretation of Genesis 2–3, close reading of the Hebrew text, and the recognition of its ancient context demonstrates that the scientific consensus need not be in conflict with sound biblical interpretation.

Wallis, Brian. "Black Bodies, White Science: The Slave Daguerreotypes of Louis Agassiz." *The Journal of Blacks in Higher Education*, no. 12, (Summer 1996): 102-6.

This article discusses the daguerreotypes of slaves on a South Carolina Plantation that Louis Agassiz commissioned and observed in 1850. The images were rediscovered in 1975 and according to Wallis, help to discredit the very notion of objectivity, and call into question the supposed transparency of the photographic record.

Weissman, Gerald "Giving Things Their Proper Names: Carl Linnaeus and W. H. Auden." *FASEB Journal* 21 (May 2007):1285-9.

This is a lightweight editorial comparing W.H. Auden's propensity for taxonomy with that of Carl Von Linné (Linnaeus). It also points out that Auden and his contemporaries believed that scientific journals gave clues to the equality of man, and that naming was necessary to stop humanity sinking into Fascism.

Zirkle, Conway. "Natural Selection before the *Origin of Species." Proceedings of the American Philosophical Society* 84, no. 1 (April 1941): 71-123.

Zirkle's lengthy but readable article states that while the concept of natural selection has generally been traced back to Darwin to Malthus, it is in fact much older, going as far back as Empedocles in 400 B.C. However, it was used originally to account for the existence of adaptation at that time.

Table 1

Definition of Monogenism and Polygenism[1]

Monogenism (also monogenesis, single origin, unitariansm)	The doctrine that humanity has a single origin and constitutes a single species. Early view that all of humankind descended from one pair of progenitors, a view held by Linnaeus, Buffon, Blumenbach and Prichard; a monogenist is anyone who held or holds such a view.
Polygenism Also polygenesis, plurality, plural origin, pluralism	Theory that living humans are descended from two or more pairs of humans, each of which led eventually to one of the different human races. Polygenism is usually associated with nineteenth century polygenist thinkers such as Samuel Morton and Louis Agassiz.

[1] "Monogenism," in *Dictionary of the Social Sciences*, ed. Craig Calhoun (Oxford: Oxford University Press, 2002); "Monogenesis," in *Cambridge Dictionary of Human Biology and Evolution* (Cambridge: Cambridge University Press, 2005); "Polygenesis," in *Cambridge Dictionary of Human Biology and Evolution* (Cambridge: Cambridge University Press, 2005).

Table 2

Key Figures in the polygenist movement.

Name	Location	Significant Publications
Charles Caldwell (1772-1853) Physician, founder of medical schools at Transylvania University and Louisville Medical Institute	Lexington, KY Louisville, KY	*Thoughts on the Original Unity of the Human Race* (1830)
Samuel George Morton (1799–1851) Physician, craniometrist and collector of skulls.	Philadelphia, PA	*Crania Americana* (1839) *Brief remarks on the Diversity of the Human Species* (1842) *Crania Aegyptica* (1844) *Catalogue of Skulls of Man and the Inferior Animals, in the Collection of Samuel George Morton.* (1849)
Josiah Clark Nott (1804- 1873) Physician and Surgeon, active in diagnosis of Yellow Fever in the South. Political activist and supporter of white supremacy, Surgeon in the Confederate Army in the Civil War.	Mobile, AL	*Two lectures on the Natural History of the Caucasian and Negro Races* (1844) *Two lectures on the connection between the Biblical and physical history of man,* (1848-9) *Types of Mankind* (1854) *Indigenous Races of the Earth* (1857)
George Robins Gliddon (1809 – 1857) Egyptologist, itinerant lecturer and former US Vice-Consul in Cairo.	Cairo, Egypt Mobile, AL	*Types of Mankind* (1854) *Indigenous Races of the Earth* (1857)
Ephraim Squier (1821-1888) Archaeologist, Diplomat and Newspaper Editor	New York, NY	*Ancient Monuments of the Mississippi Valley* (1848)

Name	Location	Significant Publications
Jean Louis Rodolphe Agassiz (1807 – 1873) Eminent Swiss-born scientist. Proposed theories of glaciation and Ice Ages. Proposed special creation in many individual "zoological provinces."	Cambridge, MA	*Diversity of Origin of the Human Races* (1850) *Types of Mankind* - Chapter (1854) *Contributions to the Natural History of the United States* (1857)

Table 3

Key Figures in the monogenist movement.

Name	Location	Significant Publications
Samuel Stanhope Smith (1751-1819) First President of the College of New Jersey, later known as Princeton.	New Jersey	*An Essay on the Causes and Variety of complexion and figure of the Human Species (2nd Ed. 1810)*
James Cowles Prichard, (1786 – 1848) Medical Doctor and Psychiatrist, first named the condition Senile Dementia.	London, UK	*Researches into the Physical History of Man* (1813)
John Bachman (1790-1874) Naturalist and Lutheran Pastor. Co-author of works on natural history with John James Audubon.	Charleston, SC	*The doctrine of the unity of the human race examined on the principles of science* (1850)
Thomas Smyth (1808-1873) Presbyterian Pastor in Charleston and member of the American Association for the Advancement of Science (AAAS).	Charleston, SC	*The unity of the human races proved to be the doctrine of Scripture, reason, and science: with a review of the present position and theory of Professor Agassiz* (1850)

Table 4

Key figures in the Darwinian movement.

Name	Location	Significant Publications
Charles Darwin (1809 – 1882) Scientist and researcher, jointly credited with the formulation of the theory of natural selection with Alfred Russel Wallace (1823-1913)	London, UK	*On the Origin of Species (1859)* *The Descent of Man (1871)*
Asa Gray (1810-1888) Botanist, Professor of Natural History at Harvard University	Cambridge, MA	*Manual of the Botany of the Northern United States, from New England to Wisconsin and South to Ohio and Pennsylvania Inclusive.* (aka Gray's Manual) (1848)
James Dwight Dana (1813-1895) Geologist, volcanologist and Professor of Natural History and Geology at Yale	New Haven, CT	*System of Mineralogy* (1837) *Manual of Mineralogy* (1848)
Sir Charles Lyell (1797-1875) Lawyer and Geologist.	London, UK	*Principles of Geology* (1830)